



74th Annual Los Angeles County Science & Engineering Fair March 10-11, 2024



Program & Student Exhibitors

Shrine Expo Hall

665 W. Jefferson Blvd., Los Angeles, CA

TOGETHER, WE HAVE THE POWER TO KEEP THE FUTURE BRIGHT

We are proud to sponsor the Los Angeles County
74th Annual Science & Engineering Fair



WELCOME

The Science Fair Executive Board and Advisory Committee welcome you to the 74th Annual Los Angeles County Science and Engineering Fair!

This year, over 927 students from public, parochial, and private schools in Los Angeles County are participating in the oldest and largest regional science fair in the western United States.

We celebrate science, technology, engineering, and mathematics in 36 categories in Junior and Senior Divisions ranging from Animal Biology to Product Science.

MISSION and GOALS

- *To provide an opportunity for young people to apply creativity and critical thought to the solution of science, engineering, and mathematics problems beyond the confines of the classroom.*
- *To publicly recognize the achievements of talented science, mathematics, and engineering students.*
- *To provide opportunities for scientists, engineers, and business leaders to network with the educational community, both at the teacher and student level, to exchange ideas and discuss career opportunities.*
- *To promote school-community cooperation in developing the scientific potential and communication skills of tomorrow's leaders.*

Science Fair Executive Board

| | |
|----------------------|--------------------------|
| Eric Hartung | President |
| Alamelu Arunachalam | Vice President |
| Mark Wang | Treasurer |
| Selena Khan | Secretary |
| Nishat Alikhan | Immediate Past President |
| Andrea Corrales | Board Member |
| Anne Maben | Board Member |
| Benjamin Dickow | Board Member |
| John Vassiliades | Board Member |
| Meena Chokkalingam | Board Member |
| Patrick Denny | Board Member |
| Susan Singh | Board Member |
| Tonia Symensma-Cohen | Board Member |

President's Message



In 1950, a group of science teachers came together to create a science competition in Los Angeles for their respective schools. Thanks to multiple groups of dedicated teachers and volunteers, the Los Angeles County Science and Engineering Fair has evolved and expanded to provide its services to middle and high school students and teachers throughout the county. This year, 927 students, representing 109 schools, 25 school districts, 27 private schools and 5 Archdiocese schools are participating in the annual event. They represent a small portion of the number of students who conducted a science or engineering project to

qualify for the fair.

While the focus of projects has shifted over the years, students continue to demonstrate their passion and STEM related skills to observe the world around them, question how things work, and look for answers about how to improve the world around them. This year environmental issues, climate change, water quality and conservation, energy conservation and renewal, and applications of artificial intelligence are just a few of the areas that our students focused their research, experimentation, and engineering design skills on. We are so proud of each student who successfully completed a scientific research or engineering project both as a school project and for the fair.

These young scientists and engineers would not be here without the leadership and guidance of their teachers, family members, and all those who supported them in their endeavors as well as the amazing support of our sponsors. The Los Angeles County Science and Engineering Fair is an all-volunteer organization that relies solely on donations and sponsorships to make this event a reality. I thank all of you who helped each student whose name appears in this program, every institution that supported their students, and each organization that donated to help support us in our mission of supporting STEM education in Los Angeles County.

Thank you all for being a part of our 74th Anniversary as we celebrate the 74 years of Science and Engineering Fairs in Southern California! I wish all our students the best in their adventures yet to come.

Eric Hartung, President

Los Angeles County Science & Engineering Fair



Professional
Engineers
in California
Government

ENGINEERING CALIFORNIA'S FUTURE

Designing Projects for Today... and Generations to Come.

Transportation • Hospitals • Schools • Energy • Water

**PECG and the Los Angeles County Science and Engineering Fair
Supporting the Next Generation of STEM Professionals**

PECG represents 14,000 state-employed engineers and related professionals responsible for designing and inspecting California's highways and bridges, ensuring that schools and hospitals are safe during earthquakes, and protecting our air, water and beaches.

About the Theme

For the 2024 Fair we asked students throughout Los Angeles County to suggest possible themes. Once we chose a theme, we then asked schools to send in art to be used for the different aspects of the fair.

The Theme was created by Justin Kung from Diamond Bar High School

“Unleashing Curiosity” encourages participants to embrace their innate curiosity and explore the transformative power of science. By unleashing curiosity, minds are ignited with new ideas and inspiration, fostering a passion for scientific inquiry. This theme highlights the long-term impact of scientific exploration, transforming individuals' futures by opening doors to educational and career opportunities in science and engineering. It inspires wonder, excitement, and a commitment to learning and growth. Furthermore, the ignition of minds allows for the creation of novel opportunities, not just for the individual, but for the communal world, thus explaining the phrase "transforming futures", as science has the capability to both change the course of history and transform human society for the better.

The Artwork was created by Ashley Kim from Crescenta Valley High School



Ashley Kim is a senior at Crescenta Valley High School located in La Crescenta, California. Currently affiliated in the Academy of Science and Medicine, alongside the guidance of her advisor Ms. Orenda Tuason, Ashley is currently positioned as Secretary for over two years, and continuously strives to step forward towards her passion in the medical field. She upvotes her confidence and passion by entering numerous art/health competitions and working with researchers at Keck Graduate Institute for her Next

Generation Sequencing Cancer Research. Additionally, Ashley has also been involved under Picasso Art for 10 years, a small art class that initially sparked her passion for fine arts. Accelerating in utilizing watercolor, acrylic, oil, origami, and digital design, Ashley states her life being full of joy and explicit happiness, where she one day hopes to live up to by giving the joy back to the world. Unlocking her passion in both art and science, she hopes to major in Public Health, and dreams of working with passionate individuals who hope to create a positive impact in society, utilizing contrasting subjects: art and health.



We Need Your Help! We Need Your Help!

The Los Angeles County Science & Engineering Fair is a 501 (c) (3) non- profit organization, and we must annually raise over \$170,000 in funds to cover LACSEF expenses. *The Science Fair, its website and workshops are run completely by unpaid staff who find great satisfaction in donating their time on a volunteer basis.* We invite you to join our Advisory Committee to help continue producing the longest running regional science fair in the western United States!

CLICK TO DONATE THROUGH PayPal

Congratulations Makaela!

Great job!

We are so proud of you!

We love you so much!

Mom & Dad

Congrats, Rhys! We are so proud of your work!

Keep coding and making music.

Love Mom, Dad, & Archie

ACKNOWLEDGEMENTS

Los Angeles County Science and Engineering Fair Advisory Committee

Nishat Alikhan, Alamelu Arunachalam, Phil Bangayan, Paula Borstel, Linda Chilton, Meena Arun-Chokkalingam, Andrea Corrales, Patrick Denny, Benjamin Dickow, Oscar Espinoza, Aidyl Gonzalez-Serricchio, Eric Hartung, Deanna Lee Rivers, Kavitha Satya-Mohandoss, Kevin Kha, Selena Khan, Sarah Kim, Wonjong Kim, Anne Maben, Jerilyn Neshek, Jeffrey Scott Nuttall, Anthony Quan, Kavitha Satya, Susan Singh, Tonia Symensma-Cohen, John Vassiliades, Mark Wang

| | |
|-----------------------------------|---|
| Science Fair Director | Eric Hartung |
| Judging Chair | Alamelu Arunachalam |
| Special Awards Chair | Mark Wang |
| Scientific Review Committee Chair | Tonia Symensma-Cohen |
| Teacher Workshop Coordinator | Anne Maben |
| Photography Coordinator | Anne Maben |
| Technology Support | Patrick Denny (On-site) Kevin Kha (Registration) |
| Social Media Co-chairs | Paula Borstel, Sarah Kim |
| Fundraising Committee Chair | Eric Hartung |
| Fair Registrar | Oscar Espinoza |
| Outreach Chair | Kavitha Satya-Mohandoss |
| Volunteer Chair | Meena Chokkalingham |
| Interactive Exhibits Chair | Jeffrey Scott Nuttall |
| Facilities Chair | Susan Singh |
| Awards Ceremony Chair | Patrick Denny |

74th Annual Los Angeles County Science & Engineering Fair

Thanks to our Generous Contributors

| \$10,000 - \$19,999 |
|--|
| Broadcom Edison International Professional Engineers in California Government Saban Family Foundation |
| \$5,000 - \$9,999 |
| Supervisor Kathryn Barger (5 th District) Supervisor Holly J Mitchell (2 nd District) The Michelson Institute for Intellectual Property Tufts University Precollege Programs |
| \$1,000 - \$4,999 |
| Aerojet/Rocketdyne Capital Group Desolation Hotel Irmgard Cheek Foundation General Atomics Sciences Education Foundation Metropolitan Water District Supervisor Lindsey Horvath (3 rd District) |
| \$500 - \$999 |
| Aerospace Andy Torosyan Mark Wang Sree Mahalakshmi Rednam Terra Data |

74th Annual Los Angeles County Science & Engineering Fair


Thanks to our supporters:

PayPal Contributors

Thanks to Science enthusiasts from around the country and the world that contributed to support of the LA County Science & Engineering Fair!

2023–2024 Contributions of Under \$500

| | | |
|----------------------|--------------------|-------------------------------------|
| Alamelu Arunachalam | Gregory McGinty | Smart & Final Charitable Foundation |
| Becky & Eric Hartung | Kalyani Mohan | Suzanne Luke |
| Bradford Rowe | Mbarek Khalifa | Tonia Symensma-Cohen |
| Costco | Meena Chokkalingam | Yun Lin |
| Easun Arunachalam | Nicholas Cohen | |
| Eline Diniz | Panda Express | |

Good Luck my pretty girl
 ***My first born **Emerald**,
we love you and are rooting
for you!***

*-Love Mom, Dad, Grandpa,
Grandma, Bronzsun, Jade,
Amethyst, Sapphire, Alexandrite,
Onyx, and Kyanite Joe!
Go Cougars! #FutureNICU-Nurse*

**Congratulations
Zia and Sofia A.
Way to Go!
We are so
proud of you!**

74th Annual Los Angeles County Science & Engineering Fair

Thanks to our Interactive Exhibitors:

NASA Jet Propulsion Laboratory
International Bird Rescue
Generation Earth
Center for Inquiry Investigations Group
Discovery Cube Los Angeles
Areteem Institute
Columbia Memorial Space Center
Nonscriptum LLC
American Cetacean Society, Los Angeles Chapter
Oceanographic Teaching Stations, Inc.
Roundhouse Aquarium Teaching Center

In-Kind Donors

Shrine Auditorium & Expo Hall
Western Bagel
Starbucks
Trader Joe's
Vons



Get your unique
74th Annual LA County Science & Engineering Fair
t-shirts!!

Buy today, as a souvenir!!



Buy your t-shirts [here](#), now!!

**CONGRATULATIONS
SPENCER K!!!**

We are so proud of you and the
work you put into your project!

Mom & Dad

Special Award Contributors

*Thanks to the following Corporate and Professional Organizations for their
generous support of excellence in student research*

American Meteorological Society – LA Chapter

American Psychological Association

Association for Women Geoscientists

Broadcom

California Association of Professional Scientists (CAPS)

The David Park Innovation Foundation

Department of Defense

Environmental Protection Agency (EPA)

ICP DAS USA, Inc.

The Lemelson Foundation

National Aeronautics and Space Administration (NASA)

National Oceanic and Atmospheric Administration (NOAA)

Office of Naval Research (U.S. Navy / U.S. Marine Corps)

Professional Engineers in California Government Regeneron

Ricoh USA, Incorporated

Saban Family Foundation

Society for In Vitro Biology

Society of Petroleum Engineers - Los Angeles

Southern California Paleontological Society

Stockholm Junior Water Prize

Thermo Fisher Scientific

US Agency for International Development (USAID)

United States Air Force

US Metric Association

UCLA Brain Research Institute

Yale Science & Engineering Association

**Supervisor Kathryn Barger
(5th District)**



**Supervisor Holly J Mitchell
(2nd District)**





Lindsey Horvath, Supervisor Third District



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA



Irmgard Cheek Foundation

SCHEDULE OF EVENTS

| THURSDAY, February 26th | |
|---|-----------------|
| Virtual Component Submission <ul style="list-style-type: none"> • Report • Slide Deck • Logbook Pictures • 3-4 Minute Video | Via Google Form |

| SUNDAY, MARCH 10 | | |
|--|---|------------------|
| Student Registration & Project Screening <i>Must have Photo Release Sheet</i> | Exhibit Hall | 10:00am - 5:00pm |
| Student Workshop, Tips for Interview Success | Judges Meeting Room- Floor 2 West Side | 3:00pm - 8:30pm |
| Interactive Exhibits Hands-on activities for students, parents, teachers, and visitors during unscheduled interview times | Floor 2 East Side | 10:00am - 3:00pm |
| Registration Closes (Students must arrive by 4:00 pm) | Exhibit Hall | |

| MONDAY, MARCH 11 | | |
|--|--|---------------------------------|
| Students Arrive Professional attire recommended. Stickers required on items bought for judging Doors open at 8:45 AM | Exhibit Hall | by 8:30am |
| Judging & Interviews EVERY STUDENT MUST BE PRESENT | Exhibit Hall | 9:10am - Lunch |
| <u>Lunch Times (on your own; Food Trucks/Concession Stand)</u> 11:00 □ J16, S04, S06, S09, S10, S11, S13, S14, S15 11:20 □ J05, J07, J08, J10, J12, J13, J14, J15, J17, J18, J19, J20, J22, S05, S08, S12 11:40 □ J01, J02, J03, J04, J06, J09, J11, S07 12:00 □ S01, S02, S03 | Dismissal Time: (tentative) 3:30 | |
| Judging & Interviews EVERY STUDENT MUST BE PRESENT for entire duration | Exhibit Hall | After Lunch - 3:30pm or earlier |
| Students Dismissed Determined by judging panel | Exhibit Hall | 4:30pm or earlier |
| Final Judging NO STUDENTS | Judges Meeting Room - Floor 2 west side | 3:30pm - 5:00pm |

AWARDS CEREMONY

This year, the Awards Ceremony will be held virtually and will be live streamed on Facebook and YouTube on Sunday, March 24, 2024 at noon.

Each student exhibitor, individual or part of a team, who participates in the Los Angeles County Science & Engineering Fair, receives a Certificate of Participation and a medal.

First Place, Second Place, Third Place, and Honorable Mention in each Project Category and Division, both individual and teams, will receive a Medal of Merit. Students who do not place 1st, 2nd, 3rd or Honorable Mention will receive a Recognition Medal.

Special Award winners will be selected by corporate, scientific and professional organizations. Prizes range from cash awards, gift certificates and internships.

**The 74th Annual
Los Angeles County Science & Engineering Fair**

PRESENTATION OF AWARDS

Sunday, March 24, 2024
Viewable at the Fair's
Facebook Live & YouTube

OPENING CEREMONY

| | |
|-----------------|---|
| 12:00 pm | Welcome: Eric Hartung, <i>President, LACSEF</i> |
| 12:10 pm | CORPORATE AND PROFESSIONAL SPECIAL AWARDS |
| 12:40 pm | PROJECT CATEGORY AWARDS |
| 1:10 pm | SPECIAL AWARDS Sweepstakes Awards Intel International Science & Engineering Fair Designees |

**** Please note: Times of each section are approximations and may be different when the show begins. ****

Special Awards

The following Special Awards will be presented at the Awards Ceremony if their criteria are met.

| Organization | Name of Award | Criteria | Prize |
|--|---|---|---|
| American Meteorological Society | Certificate of Outstanding Achievement for Ability and Creativity in an Atmospheric Science Exhibit | Grades 6-12. Project showing excellence in atmospheric & related oceanic & hydrologic sciences | Certificate & invitation to LA-AMS Annual Banquet |
| American Psychological Association | Certificate of Award for Achievement in Research in Psychological Association | Grades 6-12. Best psychology-related project. Behavioral & Social Sciences / Animal Sciences / Biochemistry / Computer Sciences / Environmental Sciences / Math / Medicine & Health Sciences | Certificate |
| Association for Women Geoscientists | Student Awards for Geoscience Excellence | Female students only; Grades 6-12. Projects that increase public awareness of geosciences, illustrate the interdisciplinary nature of the geosciences, or promote the sensitivity to the Earth as a global system. | Certificate |
| Broadcom | Broadcom Coding With Commitment | Grades 6-8. Combining STEM knowledge with Computation/Coding in a Project that helps or improves the Community | Raspberry Pi & \$250 Gift Card |
| California Association of Professional Scientists (CAPS) | CAPS Science Achievement Award | Grades 7-11. For the project best illustrating good scientific methodology in a discipline represented by members of CAPS, including physics, chemistry, biological & environmental science, toxics & energy resources | Certificate, \$50 |
| The David Park Innovation Foundation | The David Park Innovation Foundation Scholar Award | Grades 9-12. Most outstanding projects related to innovation & technology | Cash Award |
| Department of Defense | DoD STEM Leadership Prize | Grades 6-8. Excellence in STEM, as well as the problem-solving skills and determination to overcome challenges throughout the research project. | Certificate & \$100 |
| ICP DAS USA, Inc. | Southern California Social Impact Award | Grades 6-12. Best new innovations carefully crafted, researched, built, and experimented to help better the environment and quality of life on the planet. | Cash Award |
| The Lemelson Foundation | The Lemelson Early Invention Prize | Grades 6-8. Problem-solving, empathy, entrepreneurial, and environmentally-responsible invention. | Certificate & \$100 |
| National Aeronautics & Space Administration (NASA) | NASA Earth System Science Award | Grades 6-12. Project that offers greatest insight into Earth's Interconnected Systems and demonstrates excellence in inquiry. | Certificate |
| National Geographic Society | That's Geography! - Cultivating Empathy for the Earth Award | Grades 9-12. Project seeking solutions to the Earth's most pressing challenges | \$100 Award and Certificate |
| National Oceanic and Atmospheric Administration (NOAA) | NOAA's Taking the Pulse of the Planet Award - for presenting research that demonstrates the Principles & Technical Innovations that offer the greatest potential for an improved understanding of Earth's dynamic processes | Grades 6-12. Best project related to understanding and predicting changes in climate, weather, oceans, and coasts. Conserving and managing coastal and marine ecosystems. | Letter & Certificate |

| Organization | Name of Award | Criteria | Prize |
|--|---|--|---|
| Office of Naval Research (U.S. Navy / U.S. Marine Corps) | The Office of Naval Research Naval Science Award | Grades 6-12. Any project which shows excellence in science or engineering. No TeamProjects! | Jr. Certificate & Medal Sr.Certificate, Medal, & \$50 |
| Professional Engineersin California Government | Honorable Mentions Marilyn Jorgenson-ReeseAward for Excellence James E. Roberts Award for Excellence | Grades 6-12. Best engineering related projects | Gift Card & Honorable Mention Medal Cash Awards |
| Regeneron | Biomedical Science Award | Grades 9-12. Excellence in Science | Cash Award |
| Ricoh USA, Inc. | Ricoh Sustainable Development Award | Grades 6-12. For presenting research that demonstrates the Principles & Technical Innovations that offer the greatest potential for Sustainable Development | Certificate |
| Saban Family Foundation | Saban Family Foundation Scholar Prize | Grades 6-12. Top projects by female scholar with a focus on providing a positive impact to her community. | Cash Award |
| Society of Petroleum Engineers – LA Section | Award for any project that demonstrates a principle of energy, fluid and gas production & handling, or other technologies or science relatedto the Petroleum industry | Grades 6-12. Energy, fluid and gas production and handling, or other technologies or science related to the Petroleum industry. | Certificate & \$100 |
| Society for In Vitro Biology | Society for In Vitro Biology Award | 11th Grade Student Only. Most outstanding project exhibiting in the areas of plant or animal in vitro (artificial environment) biology or tissue culture. | Certificate |
| Southern California Paleontological Society | Southern California Paleontological Society Awardfor Academic Excellence | Grades 6-12. Best project related to paleontology or geology, earth science, paleobiology, or similar categories | Certificate, \$50 cash prize, membership in the society for one year, opportunity to present project at an SCPS meeting in June |
| Stockholm Junior WaterPrize | Regional Water Prize Award - Award of Excellence for a Water-Related Science Research Project | Grades 9-12 only. Outstanding water-related research at the high school level which focuses onrelevance in terms of science, the environment, & society, creativity of the project, methodology,subject knowledge, practical skills, & report & presentation. | Certificate + Nomination toState SJWP Competition |
| Thermo Fisher Scientific | Thermo Fisher Junior Innovators Challenge | Grades 6-8 only. Top 10% of 6 th , 7 th , and 8 th grade students at a society-affiliated fair | Certificate + Eligibility to enter Thermo Fisher Scientific Junior Innovators Challenge |
| UCLA Brain Research Institute | Award - for outstanding projects related to Neuroscience | Grades 6-12. For outstanding projects related to Neuroscience | Gift Card & Certificate |
| U.S. Agency for International Development (USAID) | Science Champion Award | Grades 6-12. Scientific excellence and using science innovatively to create a potential solution to international development challenges. | Certificate |
| U.S. Air Force | The U.S. Air Force Science Award | Grades 9-12. Projects exemplifying STEM-related research | Certificate |
| U.S. Metric Association | U.S. Metric Association Award forthe best use of SI Units in a Science Fair Project | Grades 9-12 only. Any project which involves measures and expresses those measures consistently and correctly in SI metric units; A project in which the measures were integrally important to the research. | Certificate |
| Yale Science and Engineering Association | Most Outstanding Exhibit | Grade 11 only. Outstanding Exhibit in ComputerScience, Engineering, Physics, or Chemistry | Certificate & Medallion |

74th Annual Los Angeles County Science & Engineering Fair

The judges will be using the following rubric to evaluate your project

| Topic | 4 | 3 | 2 | 1 |
|---|---|--|--|--|
| Introduction (I)/ Experimental Question (EQ) & Hypothesis (H) <i>(H may not be present in all projects)</i> | <input type="checkbox"/> It has an original, detailed EQ that clearly outlines the experiment. <input type="checkbox"/> H (where appropriate) is clearly stated and based on research. <input type="checkbox"/> The purpose of the investigation, answers a specific question. | <input type="checkbox"/> It has an EQ that outlines the experiment. <input type="checkbox"/> H (where appropriate) is clearly stated. | <input type="checkbox"/> The EQ is the same as published by another source, lacks originality. <input type="checkbox"/> H is based on assumptions, lacks a review of research. | <input type="checkbox"/> The EQ does not overview the experiment. <input type="checkbox"/> H is not related to the EQ; student lacks understanding of experiment and expected results. |
| Background Research/ Exploration | <input type="checkbox"/> Research has been done on the scientific process that is being manipulated in the experiment. <input type="checkbox"/> Correct number of cited references are present, written in proper format. | <input type="checkbox"/> Research has been done on the topic of the experiment. <input type="checkbox"/> References are present but may not be cited | <input type="checkbox"/> Minimal research has been done. <input type="checkbox"/> Student lacks understanding of the experimental topics. <input type="checkbox"/> References maybe present. | <input type="checkbox"/> Lacks evidence of research related to the topic of the experiment. <input type="checkbox"/> No references or citations are present. |
| Procedure/ Materials & Methods | <input type="checkbox"/> Detailed ORIGINAL procedure written to allow an outsider to understand all steps that were taken in the experiment. (This includes explanation of the variables, data collected, number of trials, disposal methods, if necessary, and all tools that were used.) | <input type="checkbox"/> The procedure is written to allow an outsider to understand steps that were taken in the experiment. (This includes explanation of the variables, data collected, and all tools that were used.) | <input type="checkbox"/> The procedure is the same as published by another source; lacks originality. | <input type="checkbox"/> The procedure is very brief and doesn't allow a reader to fully understand what was done during the experiment. <input type="checkbox"/> The procedure is not repeatable |
| Data/ Results <i>*Some projects do not use graphs with data.</i> | <input type="checkbox"/> Appropriate qualitative and/or quantitative data was collected. <input type="checkbox"/> Data is clear and understandable. <input type="checkbox"/> Sample size and number of trials are appropriate for the subject. <input type="checkbox"/> Graphs/data/and tables are appropriately used. <input type="checkbox"/> Data is appropriately labeled. <input type="checkbox"/> Grade appropriate data presentation. | <input type="checkbox"/> Both qualitative and quantitative data has been collected. <input type="checkbox"/> Multiple trials have been conducted. Graphs are present of trials and averages. These graphs include key parts of a graph and a caption. | <input type="checkbox"/> Only one kind of data has been collected. <input type="checkbox"/> Limited trials have been conducted. <input type="checkbox"/> Student has a graph of their data. | <input type="checkbox"/> Minimal data has been collected. <input type="checkbox"/> Only one trial has been completed. <input type="checkbox"/> Graphs are misleading; they do not have equal spans; lacking key information. |
| Conclusions/ Student Understanding | <input type="checkbox"/> The analysis is thorough and grade appropriate. <input type="checkbox"/> Students have drawn conclusions based on their experiments and research. <input type="checkbox"/> Student can discuss the results and cite the data that has been collected. <input type="checkbox"/> The student can discuss if/when the research and data match or not. <input type="checkbox"/> Students have further questions and research ideas. <input type="checkbox"/> Great Depth of Understanding | <input type="checkbox"/> Student has drawn conclusions based on the experiments. <input type="checkbox"/> They are able to discuss the results and cite the data that has been collected. <input type="checkbox"/> Student has further questions and research ideas. | <input type="checkbox"/> Student has drawn conclusions based on the experiments. <input type="checkbox"/> Student is able to discuss the results and cite the data that has been collected. | <input type="checkbox"/> Students have difficulty discussing the experiment and results. <input type="checkbox"/> Student does not make connections between results and research. |

Interview Tips & Tools

| | | |
|--|---|--|
| 1. Think of yourself as belonging to the science community. You are sharing your ideas among colleagues | 4. Communicate in a natural manner, not rushed, perhaps just a bit slower than usual. Give each idea its moment in the sun. | 7. Allow questions and comments to guide the direction of your presentation. Pause from time to time to allow for dialogue! |
| 2. Find a way to get physically comfortable with yourself just before you begin. Breathe easily! | 5. Let your opening start with a BIG IDEA, then connect it to your research topic. Place your project into context! | 8. If you don't know, use the moment to think out loud with your colleagues. Show the quality of your thinking process! |
| 3. Draw from what you know by heart— so that it doesn't sound overly "memorized." Speak from your place of confidence! | 6. Provide a brief overview of highlights, like an abstract or a movie trailer. <u>Excite</u> your audience about your project! | 9. Used sparingly, humor, charm, and eye contact may help you connect with your colleagues. Stay focused on the science story! |

Remember that this is an interview. Look professional!

When interviewed be sure to allow yourself time to get there and to relax! Your interview itself is only about **8 minutes**. You will be asked to be at your project early and to stay a few minutes after!

✓✓ To find your interview time(s) look on the back of the name card at your project location!



Who will interview you?

- BB They are scientists in the field, teachers, retired scientists, etc.
- They have seen (and maybe read) your Abstract!
 - They have reviewed your board!
 - They are prepared with questions!

What questions might be asked?

Remember that every group/person will have their own favorite questions... here are the most logical ones, and some of my favorites!

- Why did you choose this experiment?
 - What is the significance of this project to your life?
- BB What were your variables?
- BB What were your controls?
- BB How did you make sure to run a fair (controlled experiment)?
- BB What were your significant findings? (Results)
- BB What formulas did you use?
- BB Did your results match your research?
- BB How did you use your research? (Did you research?)
- BB Did you have any discrepant events? (Weird results that didn't fit the trend?)
- BB What further results/experiments might you now be interested in doing?

Partners... you BOTH/ALL have to talk!!

NON--DISCRIMINATION POLICY



The Los Angeles County Science and Engineering Fair is an equal opportunity for all event, regardless of age, ancestry, color, disability (mental and physical), gender, gender identity, sexual orientation, medical condition, national origin, race, and religious creed. Judges and volunteers bear the responsibility to act as guardians and custodians of the students during their volunteering. Their familiarity with the students' special sensitivities is imperative to the overall Science Fair effort to achieve an equal opportunity for all environments, free of discrimination.

Los Angeles County Science & Engineering Fair Pledge for Parents, Volunteers and the Public

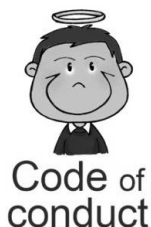
On behalf of teachers, parents and visitors I pledge to be an example for our children by:

- ❖ *Respecting the rules of the Los Angeles County Science & Engineering Fair.*
- ❖ *Encouraging excellence in experimentation and investigation.*
- ❖ *Supporting independence, originality, and creativity in the design and completion of all competitive projects; and*
- ❖ *Respecting the authority and decisions of the staff and judges of the Los Angeles County Science & Engineering Fair.*



My actions will promote the spirit of cooperation within and among all participating schools!

Student Code of Conduct



As a participant in the Los Angeles County Science Fair:

- ❖ *I will compete honestly and with good sportsmanship.*
- ❖ *I will act with integrity and treat others with courtesy.*
- ❖ *I will respect Fair volunteers, staff, and judges and their decisions*



Regulations for Projects

The following regulations will help keep the projects uniform and within the laws of the State of California. Fair sponsors want all students to have the best opportunity to compete for the annual awards. During the time that the Fair is open to the general public, the perception of the projects must be positive, and precautions must be taken for the security of each project. All projects at the Los Angeles County Science & Engineering Fair must abide by the following:

0. Present an experimentally based research design exemplifying the science processes or engineering design/inventions.
1. Be carefully prescreened and approved online by the School Site Coordinator. The Los Angeles County Science & Engineering Fair Judges' Rubric lists the criteria used to evaluate the projects. **Online Pre-approval** of project proposals is necessary for projects involving *tissue/cell lines, human subjects, live vertebrate animals, hazardous materials and/or microbes*.
2. Clearly distinguishes between the work of the student entrant and the work of others. Students who have prepared a project in conjunction with research participation opportunity in industry, a university, hospital, or institution other than their school must show only the student's research in their project display. Students may mention the relationship to the research of others in notebooks only if they clearly specify the assistance received and the role and contributions of others in research related to the project. Most projects being performed at outside institutions will need online preapproval for the 5 categories listed above, including electronic verification by supervising professionals.
3. Be original and distinct. Identical project/data may not be submitted by a school under separate judging divisions. Likewise, the same unmodified project cannot be submitted multiple years.
4. Be within the total quota for each school. Quotas will be announced in advance of the Fair. If additional applications are submitted, schools will be contacted, and each school will determine which projects are the official entries. If excess entries are initially overlooked, only a number corresponding to the quota will be judged. Those to be judged will then be selected at the discretion of the Science Fair Committee.
5. Schools need to be electronically enrolled for the fair through the www.lascifair.org website. Schools should avoid enrollment until it is certain that their students' projects will be completed in time, ready to be registered online and arrive at the Fair.
6. Student and project information will be submitted online by students only in grades 6-12 or with an age equivalent to those in grades 6-12. Team members **MUST** attend the same school, for oversight by the Site Coordinator.
7. Be registered and set up at the Fair and picked up only within the designated hours. Early entries will not be accepted. Entries will be accepted, and project pick up will be permitted only when a member of the Los Angeles County Science Fair Committee is present.
8. Use illustrations or photographs **ONLY** of microbes, animals and plants for displays. The display of bacterial cultures and live or preserved animals and plants will not be permitted.
9. Remain at the Fair during the day scheduled for judging interviews. The only exception to this rule is for students who must take projects to the International Fair, if their departure day/time overlaps the time that the Los Angeles County Science & Engineering Fair is open. To ensure security during project removal, the authorized time for pick up will be strictly followed. The Fair is not responsible for projects left after the designated time.
10. Use a title that provides the viewer with a clear concept of the subject and procedure of the research. Present the steps of the scientific methodology used, organized from left to right and top to bottom. Use metric units for all measurements. Have all values on charts and graphs correctly labeled. Present all narrative writing in a legible manner with correct grammar, punctuation and spelling. Carefully review the category descriptions and select the proper one for the project.
11. Fit within the prescribed space limitations – no larger than 76 cm (2.5 ft. deep (front to back), 122 cm (4 ft.) wide (side to side) and 284 cm (6.5 ft.) high (if placed on table) or 274 cm. (9 ft.) high (if placed on floor) Oversized projects will be screened at the door and refused entry.
12. Be able to support their weight and not collapse due to inadequate construction. Any project that does not meet the minimum standards for construction will be removed from the display area and not judged.
13. Display photographs that do not show procedures harmful to the health and wellbeing of animals. (For instance, the performance or results of surgical procedures will not be shown.) Those projects not in compliance will be removed from the display areas and will not be judged.
14. Do not display items you cannot afford to lose. There is a system for bringing in items to show the judges. Have notebooks and other paperwork tethered to the display board. The Fair will not be responsible if these items are missing from projects.
15. A computer may be brought to the display for the judging interview if the student assumes full responsibility for the computer. Computers should not be left at a project if the student is not there to ensure its safekeeping.
16. Give attention to all considerations of safety. Projects that use 120-volt electrical current must have all wires and connections well shielded. Those projects not in compliance will be screened at the door and refused entry.
17. Adhere to all of the rules and regulations of the Fair and all relevant federal, state and local laws. Projects not in compliance will be screened at the door and refused entry.
18. Be submitted with the understanding that decisions of the Los Angeles County Science & Engineering Fair Committee are final



Pre-College Programs

Step into your future

APPLY BY MAY 1

Visit our website:
precollege.tufts.edu



Experience college life at a Top-30 University and learn from renowned faculty.
Explore our programs:

College Experience

Health & Science

Engineering & Computer Science

Business & Management

Social Impact

Fine Arts & Design



precollege@tufts.edu



617-627-2926

[PRECOLLEGE.TUFTS.EDU](https://precollege.tufts.edu)

THE MICHELSON INSTITUTE FOR
INTELLECTUAL PROPERTY

- FREE Intellectual Property Resources (Online course, Textbook, Videos)
- Access to a Network of IP Experts
- Virtual & Live Educational Workshops

EMPOWERING THE NEXT GENERATION OF SCIENTISTS & ENGINEERS



Visit MichelsonIP.com



Participating Schools - Junior Division

| | | |
|---|--|---|
| Al-Huda Islamic School | Islamic Center of Claremont Community School | Rancho Pico Junior High School |
| Archer School for Girls | La Canada Preparatory | Ridgecrest Intermediate School |
| Arroyo Seco Museum Science Magnet School | Lashon Academy | Rose & Alex Pilibos Armenian Middle School |
| Assumption of The Blessed Virgin Mary, Pasadena | Magnolia Science Academy 6 | Rosemont Middle School |
| Bell Gardens Intermediate School | Magruder Middle School | Ross Academy of Creative and Media Arts Middle School |
| Beverly Vista Middle School | Mark Twain Middle School | Rudecinda Sepulveda Dodson Gifted Magnet Middle School |
| Brentwood School | Miraleste Intermediate School | Rudecinda Sepulveda Dodson Middle School |
| C. & E. Merdinian Armenian Evangelical School | Montebello Intermediate School | Science Academy STEM Magnet – Junior Division |
| Cedarlane Academy | Mountain Avenue Elementary School | Saint Martin of Tours |
| Chaminade Middle School | National Youth Community Center | St. Gregory A. & M. Hovsepien School |
| Chamlan Armenian School | New Horizon School, Pasadena | Saint Monica Academy |
| Hale Charter Academy STEAM Magnet | New Roads Middle School | St. Timothy School |
| Harvard-Westlake School | New West Charter | Sierra Madre Middle School |
| Holy Angels School | Oak Hills Elementary School | Stratford School |
| Holy Martyrs Ferrahian School | Palos Verdes Intermediate School | Temple Beth Am - Pressman Academy |
| Incarnation Parish School | Pomona Unified School District Junior Division | Turning Point School |
| Institute of Knowledge Middle School | Portola Highly Gifted Magnet | Walter Reed Middle School |

Participating Schools - Senior Division

| | | |
|--|---------------------------------------|--|
| Academy of the Canyons | Granada Hills Charter High School | Palos Verdes High School |
| AESA STEM Academy | Gretchen Whitney High School | Palos Verdes Peninsula High School |
| Arcadia High School | Hart High School | Pasadena High School |
| Archer School for Girls | Harvard-Westlake School | Pioneer High School |
| Beverly Hills High School | Holy Martyrs Farrahian High School | Polytechnic School |
| Brentwood School | Institute for Educational Advancement | Pomona Unified School District |
| Cabrillo Marine Aquarium | Inglewood High School | Rose and Alex Pilibos Armenian High School |
| Calabasas High School | Institute of Knowledge High School | San Marino High School |
| Cerritos High School | Karios Prep Academy | Schurr High School |
| Chadwick School | La Canada High School | Science Academy STEM Magnet |
| Chatsworth Charter High School & G+STEAM High School | La Salle College Preparatory | Sequoyah School |
| City Honors International Preparatory School | Magnolia Science Academy 4 | Sierra Canyon School |
| Crescenta Valley High School | Mark Keppel High School | Sylmar Biotech Health & Engineering Magnet |
| Crespi Carmelite High School | Mira Costa High School | Temple City High School |
| Diamond Bar High School | Morningside High School | The Webb Schools |
| Don Bosco Technical Institute | Palmdale High School | USC East College Prep |
| El Camino Real Charter High School | National Youth Community Center | Valencia High School |
| El Segundo High School | New West Charter High School | Walnut High School |
| Excelsior School | North Hollywood Senior High School | West Ranch High School |
| Flintridge Preparatory School | | Westridge School for Girls |



74th Annual Los Angeles County Science & Engineering Fair

Statistical Summary

Table 1. Number of Project Entries

| Cat. No. | Category | 2024 | 2024 | 2023 | 2022 | 2021 | 2020 | 2019 | 2018 | 2017 |
|----------|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | JR | SR | Total | Total | Total | Total | Total | Total | Total |
| J01, S01 | Animal Biology | 14 | 12 | 14 | 17 | 4 | 23 | 27 | 18 | 20 |
| J02, S02 | Animal Physiology | 6 | 10 | 20 | 8 | 10 | 19 | 16 | 18 | 20 |
| S03 | Behavioral / Social Sciences | - | 35 | 13 | 10 | 10 | 21 | 25 | 12 | 9 |
| J03 | Behavioral Sciences - Non Human | 3 | - | 5 | 4 | 1 | 11 | 11 | 10 | 13 |
| J04 | Behavioral / Social Sciences - Human | 34 | - | 23 | 10 | 11 | 13 | 18 | 25 | 37 |
| J05, S04 | Biochemistry & Molecular Biology | 9 | 19 | 24 | 21 | 18 | 35 | 25 | 32 | 41 |
| S05 | Chemistry | - | 23 | 16 | 12 | 6 | 14 | 26 | 25 | 27 |
| J06 | Chemistry - Applied | 19 | - | 18 | 11 | 13 | 14 | 35 | 27 | 32 |
| J07 | Chemistry - General | 19 | - | 5 | 8 | 13 | 32 | 35 | 35 | 58 |
| J08, S06 | Earth / Space Sciences | 13 | 9 | 9 | 14 | 8 | 18 | 22 | 34 | 39 |
| J09, S07 | Ecology | 17 | 9 | 18 | 28 | 19 | 38 | 33 | 39 | 33 |
| J10, S08 | Engineering Applications | 46 | 31 | 74 | 51 | 41 | 62 | 82 | 70 | 75 |
| J11, S09 | Engineering Research | 26 | 20 | 30 | 20 | 12 | 33 | 42 | 26 | 44 |
| J12, S10 | Environmental Management | 27 | 28 | 59 | 41 | 20 | 64 | 55 | 60 | 64 |
| J13 | Materials Science | 24 | - | 19 | 17 | 12 | 18 | 28 | 29 | 36 |
| J14, S11 | Mathematics / Computer Sciences | 20 | 34 | 26 | 18 | 13 | 37 | 32 | 25 | 19 |
| J15, S12 | Microbiology | 12 | 9 | 19 | 15 | 12 | 23 | 15 | 19 | 30 |
| J16, S13 | Pharmacology | 6 | 5 | 24 | 11 | 5 | 11 | 17 | 22 | 17 |
| S14 | Physics | - | 28 | 5 | 5 | 11 | 19 | 11 | 14 | 16 |
| J17 | Physics - Aerodynamics / Hydrodynamics | 16 | - | 16 | 5 | 7 | 16 | 26 | 14 | 34 |
| J18 | Physics - Electricity & Magnetism | 18 | - | 12 | 17 | 8 | 29 | 30 | 24 | 41 |
| J19 | Physics - General | 17 | - | 12 | 13 | 8 | 19 | 34 | 39 | 51 |
| J20, S15 | Plant Biology & Physiology | 36 | 12 | 50 | 32 | 31 | 53 | 55 | 69 | 82 |
| J22 | Product Science | 28 | - | 25 | 18 | 16 | 36 | 46 | 36 | 40 |
| | TOTAL | 410 | 284 | 536 | 406 | 309 | 658 | 746 | 722 | 878 |

Table 2. Number of Participating Students by School, Gender

| DISTRICT | 2024 | 2023 | 2022 | 2021 | 2020 | 2019 | 2018 | 2017 |
|---------------|------------|------------|------------|------------|------------|------------|------------|-------------|
| Archdiocese | 5 | 4 | 1 | 4 | 9 | 10 | 13 | 15 |
| Private | 8 | 11 | 10 | 15 | 23 | 24 | 29 | 38 |
| Public | 97 | 71 | 61 | 44 | 69 | 97 | 75 | 94 |
| TOTAL | 110 | 86 | 72 | 63 | 92 | 121 | 117 | 147 |
| BOYS | 429 | 277 | 220 | 166 | 234 | 424 | 413 | 460 |
| GIRLS | 484 | 312 | 282 | 187 | 331 | 470 | 465 | 581 |
| OTHERS | 14 | - | - | - | - | - | - | - |
| TOTAL | 927 | 589 | 502 | 353 | 565 | 894 | 878 | 1041 |



**The Los Angeles County Science & Engineering Fair
Advisory Committee & Executive Board wants to applaud
the Los Angeles County Office of Education for supporting
STEM Education in LA County!
Thank You!**



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J01 • Animal Biology - Jr

J0101 Tan, Donovan Gr: 6
Lee, Harvey Gr: 6
Wong, Kryuzen Gr: 6

Capturing Fingerprints

S: Stratford School
D: Altadena
C: Weerasena, Viraji

J0102 Hamdan, Ayah Gr: 8

Heart Rate Recovery Time for Athletes Versus Non-Athletes

S: Al-Huda Islamic School
D: Hawthorne/Private
C: Alshanableh, Rula

J0103 Moffet, Elizabeth Gr: 8

How is a Horse's Fitness Impacted by Their Living Arrangement?

S: Hale Charter Academy STEAM Magnet
D: LAUSD
C: Ramirez, Joanne

J0104 Zheng, Autumn Gr: 7

Stent Structure Saves Lives

S: Rancho Pico Junior High School
D: William S. Hart Union High School District
C: Nicholas, Catherine

J0105 Crespo Mirat, Elisa Gr: 8

Main Genes Associated With Immortality in Turritopsis Dohrnii

S: Palos Verdes Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J0106 Asatourian, Leana Gr: 8

Oxygen's Effect on Aging!

S: Chamlian Armenian School
D: GUSD
C: Gevorkian, Iida

J0107 Young, Adam Gr: 7

The Affect of Heat On the Growth of Insects

S: Science Academy STEM Magnet (Junior Division)
D: Los Angeles Unified
C: White, Sarah

J0108 Izaac, Amber Gr: 8

Mosquito and Fly Trap

S: Lashon Academy
D: Los Angeles County Office of Education
C: Abelson, Jonathan

J0109 Rokerya, Zayd Gr: 6

The Power of Lungs: Investigating the Effect of Exercise on Pulmonary Function

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena

J0110 Vassileva, Alexandra Gr: 8

Using Natural Substances, Plant Oils and Extracts as Repellent for the Aedes aegypti Mosquito

S: Miraleste Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J0111 Jardeleza, Isabelle Gr: 6

Jardeleza, Isabelle Gr: 6

Villegas, Frida Gr: 6

What Types of Flowers Are Butterflies Most Attracted To?

S: Assumption of the Blessed Virgin Mary, Pasadena
D: Archdiocese of Los Angeles
C: Boldt, Patrick

J0112 Chung, Seungah Gr: 7

Ant's Memory

S: National Youth Community Center (Junior)
D: 2
C: Kim, Wonjong

J0113 Mardoyan, Jasmine Gr: 6

Levonian, Lillit Gr: 6

Garabedian, Nshan Gr: 6

Does Age Make a Difference in Lung Capacity

S: Holy Martyrs Ferrahian Middle School
D: None
C: Balian Chahinian, Sanahine

J0114 Gabri, Nairi Gr: 8

Simonian, Sandra Gr: 8

Kazanjan, Aline Gr: 8

Blood Spatters

S: Holy Martyrs Ferrahian Middle School
D: None
C: Balian Chahinian, Sanahine



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J02 • Animal Physiology - Jr

J0201 Balaji, Ameya Gr: 8

*Aspartame's Game on Planarian
Motility & Stereotypy*

S: Cathedral Chapel School
D: Archdiocese of Los Angeles
C: Mitchell, Donielle

J0202 Karthik, Akshobh Gr: 8

*Migraine's Influence: Unraveling White
Matter Lesions and Dopamine
Dysfunction in Parkinson's Disease*

S: Ridgecrest Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J0203 Geronimo, Mia Gr: 6
Ramirez, Alejandra Gr: 6
Martinez, Clara Gr: 6

Yuck Mouth

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

J0204 Hafid, Faris Gr: 8
Safdari, Asiyah Gr: 6

*Decoding Non-Verbal Communication
in Children with Autism and Autism
Spectrum Disorder.*

S: Al-Huda Islamic School
D: Hawthorne/Private
C: Alshanableh, Rula

J0205 Janjua, Eshal Gr: 7

*Fact or Fiction: Can Caffeine Affect
One's Vision?*

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena

J0206 Azam, Shayan Gr: 8

*Just Relax and Breathe: A Comparative
Analysis of Diaphragmatic and Thoracic
Breathing Efficiency Across Age
Groups*

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J03 • Behavioral Science - Non-Human - Jr

J0301 Song, Hyunjin Gr: 7

*Relationship Between Venus Trap's
Closing Behavior and the Level of
Nitrogen in Their Soil*

S: National Youth Community Center
(Junior)
D: 2
C: Kim, Wonjong

J0302 Markarian, Ella Gr: 7

With or Without the Help?

S: St. Gregory A. & M. Hovsepian
School
D: NA
C: Haroutiounian , Shakeh

J0303 Aftergood, Jonah Gr: 8
Bard, Ori Gr: 8

Inside the Mind of a Psychopath

S: Temple Beth Am Pressman
Academy
D: 0
C: Forman, Sam



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division

J04 • Behavioral/Social Sciences - Human - Jr

J0401 Purut, Alexander Gr: 7

Videogames and Reading and Their Effect on Memory

S: St. Gregory A. & M. Hovsepian School
D: NA
C: Haroutiounian, Shakeh

**J0402 Noggle, Charlie Gr: 8
Ntanios, Emma Gr: 8**

The Art of Youthful Fears

S: St. Timothy
D: Archdiocese of Los Angeles
C: Novak, Chrisdy

J0403 Bodner, Chana Gr: 7

Scents and Emotions

S: Temple Beth Am Pressman Academy
D: 0
C: Forman, Sam

J0404 Lazarus, Haley Gr: 7

Testing and Stressing: How Taking a Test Affects a Student's Heart Rate

S: Archer School for Girls (Junior)
D: Private
C: Neshek, Jerilyn

**J0405 Huerta, Jessica Gr: 6
Rodriguez, Dannalee Gr: 6
Garcia, Gael Gr: 6**

Brain Battle

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

J0406 Blond, Joshua Gr: 7

Testing Bias in Art

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth

J0407 Kemell, Liora Gr: 8

Can Classical Music Help You Study?

S: Temple Beth Am Pressman Academy
D: 0
C: Forman, Sam

**J0408 Chiou, Aaron Gr: 7
Solorzano, Dylan Gr: 6**

Stranger Danger

S: New West Charter
D: SBE - New West Charter
C: Burke, Eric

**J0409 Nejat, Jasmine Gr: 7
Rosner, Shiloh Gr: 7**

What Do You See?

S: Temple Beth Am Pressman Academy
D: 0
C: Forman, Sam

J0410 Mansoori, Aaira Gr: 8

Mindflex: Evaluating the Impact of IQ Games on Memory Enhancement

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selenia

J0411 Ricks, Ivy Gr: 8

The Effect of Maya Culture on Teotihuacan Post Entrada

S: Palos Verdes Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J0412 Lee, Kayla Gr: 8

The Effect of Screens in the Contagiousness of a Yawn

S: National Youth Community Center (Junior)
D: 2
C: Kim, Wonjong

**J0413 Manvelyan, Lilit Gr: 7
Ekizian, Mariana Gr: 7**

The Effect of Social Media on Kids Brain

S: St. Gregory A. & M. Hovsepian School
D: NA
C: Haroutiounian, Shakeh

**J0414 Nejat, Nicolette Gr: 7
Elbaz, Liana Gr: 7
Notowitz, Talia Gr: 7**

The Memory of Introverts and Extroverts

S: Temple Beth Am Pressman Academy
D: 0
C: Forman, Sam

J0415 Yu, Evalyn Gr: 8

The Psoriasis Puzzle: Analyzing Changes in Mental and Physical Health in Psoriasis Patients Pre- and Post-COVID

S: Palos Verdes Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J0416 Ralls, Hudson Gr: 6

Does Practice Make

S: New West Charter
D: SBE - New West Charter
C: Burke, Eric

J0417 Bahadourian, Kyle Gr: 7

Does Playing Video Games Improve Hand-Eye Coordination

S: Holy Martyrs Ferrahian Middle School
D: None
C: Balian Chahinian, Sanahine

J0418 Maxwell, Reilly Gr: 7

Heart Rate

S: New Roads Middle School
D: Santa Monica-Malibu Unified School District
C: Alikhan, Nishat

J0419 Andrade, Allix Gr: 8

Forensic Sciences and Memory; Should We Rely on It?

S: Ross Academy of Creative and Media Arts Middle School
D: ABC Unified School District
C: Espinoza, Oscar

**J0420 Carrasco, Abigail Gr: 6
Ramirez, Ruby Gr: 6
Rosas, Jesus Gr: 6**

Nutritional Showdown

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

J0421 Calderon, Daniela Gr: 8

The Stroop Effect

S: Lashon Academy
D: Los Angeles County Office of Education
C: Abelson, Jonathan

J0422 Zahid, Fatima Gr: 6

A Study on the Effect of Age on Short-Term Memory

S: Al-Huda Islamic School
D: Hawthorne/Private
C: Alshamleh, Rula

**J0423 Polk, Liliana Gr: 7
Butler, Kyleigh Gr: 7**

Street Smart

S: New Roads Middle School
D: Santa Monica-Malibu Unified School District
C: Alikhan, Nishat



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division

J04 • Behavioral/Social Sciences - Human - Jr

J0424 Wendell, Mark Gr: 6

Neighborhood Slow Down

S: Walter Reed Middle School

D: Los Angeles Unified School District

C: Sofio, Joyann

J0425 Vahedifar, Shirel Gr: 8

Scented Sensations

S: Temple Beth Am Pressman

Academy

D: 0

C: Forman, Sam

J0426 Monzon, Valeria Gr: 8

Is Slime the Villain?

S: Arroyo Seco Museum Science

Magnet

D: LAUSD

C: Griffith, Laura

J0427 Haro, Alexandria Gr: 7

Canceling the Noise Helps: The Effects of Noise- Canceling Headphones.

S: Archer School for Girls (Junior)

D: Private

C: Neshek , Jerilyn

J0428 Yaghoubi, Eli Gr: 6

Does the Amount of Sleep Impact a Student's GPA?

S: Beverly Vista Middle School

D: Beverly Hills Unified School District

C: Langevin, Alyssa

J0429 Shahnazarian, Maral Gr: 8

Analyzing the Amount of Sugar in Beverages to Determine Which Has Worse Impact On Type 2 Diabetes

S: Chamlian Armenian School

D: GUSD

C: Gevorkian, lida

J0430 Salehi, Sophie Gr: 8

Reactions to Distraction: Digital Distractions Impact on Short-Term Memory

S: Archer School for Girls (Junior)

D: Private

C: Neshek , Jerilyn

J0431 Khan, Sana Gr: 8

Tick Tock on the Clock! A Study of Time Perception in the Age of Social Media.

S: Al-Huda Islamic School

D: Hawthorne/Private

C: Alshanableh, Rula

J0432 Aluizo, Serena Gr: 6

Does the Time of Day Affect the Amount of French Fries You Are Served?

S: Rudecinda Sepulveda Dodson
Middle School

D: LAUSD-South

C: Sarmiento, Wilmer

J0433 Pinsky, Amalia Gr: 7
Pearlman, Penny Gr: 7

Peppermints VS. Reaction Time

S: Temple Beth Am Pressman

Academy

D: 0

C: Forman, Sam

J0434 Kim, Yenna Gr: 6

The Waste of Grocery Shopping

S: Walter Reed Middle School

D: Los Angeles Unified School District

C: Sofio, Joyann



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division

J05 • Biochemistry & Molecular Biology - Jr

J0501 Barba, Audrey Gr: 7
McCormick, Gabe Gr: 7

Gummy Bear Galore

S: New Roads Middle School
D: Santa Monica-Malibu Unified School District
C: Alikhan, Nishat

J0509 Musallet, Batool Gr: 7

*Healthier You With Vitamin C:
Evaluating the Preservation of Ascorbic
Acid in Culinary Processes*

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena

J0502 Lu, Olivia Gr: 6

*Popping Boba: How Does the pH Level
of a Liquid Affect the Process of
Spherification*

S: Mark Twain Middle School
D: LAUSD
C: Burman, Jenny

J0503 Stepanian, Lia Gr: 7

*How Does the Source (Type) of Sugar
Affect the CO₂ Production During Yeast
Fermentation?*

S: Chamlian Armenian School
D: GUSD
C: Gevorkian, lida

J0504 Lee, Nathaniel Gr: 8

*How Different Wavelengths of Light
Affect the Efficiency of Photosynthesis
Reaction and Plant Growth*

S: National Youth Community Center
(Junior)
D: 2
C: Kim, Wonjong

J0505 Worden, Elodie Gr: 6

Testing pH with Spherification

S: Mark Twain Middle School
D: LAUSD
C: Burman, Jenny

J0506 Montgomery, Haley Gr: 6

Egg Substitute Chocolate Chip Cookies

S: Walter Reed Middle School
D: Los Angeles Unified School District
C: Sofio, Joyann

J0507 Lovett, Cameron Gr: 8

How Thirsty is Your Skin?

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad

J0508 Liang, Patrick Gr: 7

*Analyzing the Mutations in the Virus
Sars-Cov-2 and the Practical Effect*

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J06 • Chemistry - Applied - Jr

J0601 Poladian, Elizabeth Gr: 7

Is all Water Clean? Testing the pH and Purity of Different Types of Water

S: C & E Merdinian Armenian
Evangelical School
D: 3
C: Aviki, Silva

**J0602 Hovannisian, Mara Gr: 8
Nalbandian, Sophia Gr: 8
Festekjian, Mila Gr: 8**

Ketchup as Penny Tarnish Remover

S: Holy Martyrs Ferrahian Middle
School
D: None
C: Balian Chahinian, Sanahine

J0603 Linsangan, Daphne Gr: 7

Cheesecake Challenge

S: Ross Academy of Creative and
Media Arts Middle School
D: ABC Unified School District
C: Espinoza, Oscar

J0604 Kerikorian, Gregory Gr: 7

Does Cooking Deplete Vitamin C

S: Chamlian Armenian School
D: GUSD
C: Gevorkian, Iida

J0605 Weinstock, Harry Gr: 7

The Color of Candy

S: New Roads Middle School
D: Santa Monica-Malibu Unified School
District
C: Alikhan, Nishat

J0606 Hong, Minuet Gr: 8

*Do Different Ratios of Triglyceride in
Soap Affect Its Solubility?*

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

J0607 Spencer, Sophia Gr: 7

*Energy Drinks and Sugar: The Effect of
the Amount of Sugar in Popular Sport
Drinks.*

S: Brentwood School (Junior)
D: Private/Independent
C: Feucht, Laura

J0608 Galadjian, Sophia Gr: 8

Which Hand Lotion Works the Best

S: St. Gregory A. & M. Hovsepian
School
D: NA
C: Haroutiounian, Shakeh

J0609 Sandoval, Farah Gr: 8

*Unbe-Leaf-Able: Application of
Methylcellulose Aqueous Solution to a
Decellularized Spinach Leaf*

S: Archer School for Girls (Junior)
D: Private
C: Neshek, Jerilyn

J0610 Gelb, Molly Gr: 8

*Which Metal Electrode and Electrolyte
Solution Combination Will Create the
Most Efficient Battery?*

S: Hale Charter Academy STEAM
Magnet
D: LAUSD
C: Ramirez, Joanne

**J0611 Lee, Caleb Gr: 6
Chung, Leland Gr: 6**

Flames of Survival

S: Pomona Unified School District
Junior Division
D: Pomona Unified School District
C: Gardea, Bridget

J0612 Fujii, Orion Gr: 8

*Development of an Assay Based on
Captive Bubble Surface Tension*

S: Ridgecrest Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J0613 Shaheed, Ibrahim Gr: 8

Dissolving Rust

S: Islamic Center of Claremont School
D: None
C: Abuali, Haneen

J0614 Lee, Elijah Gr: 8

Sugar Shock!

S: St. Timothy
D: Archdiocese of Los Angeles
C: Novak, Chrisdy

J0615 Wang, Aylin Gr: 6

*Finding the Solution That Makes the
Longest Lasting and Easiest Forming
Bubbles*

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

J0616 Bardakian, Alique Gr: 8

Cracking the Moisturizer Code

S: St. Gregory A. & M. Hovsepian
School
D: NA
C: Haroutiounian, Shakeh

J0617 Daduryan, Derev Gr: 7

Freezing Water

S: St. Gregory A. & M. Hovsepian
School
D: NA
C: Haroutiounian, Shakeh

J0618 Rowe, Jordan Gr: 8

Turning Waste Cooking Oil Into Biofuel

S: Science Academy STEM Magnet
(Junior Division)
D: Los Angeles Unified
C: White, Sarah

J0619 Khan, Zahrah Gr: 8

Stain Wars: The Best Detergent

S: Islamic Center of Claremont School
D: None
C: Abuali, Haneen



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division J07 • Chemistry - General - Jr

J0701 Armenian, Ari Gr: 8

From Berries to Electricity: Solar Cells in Nature?

S: Chamlian Armenian School

D: GUSD

C: Gevorkian, Iida

J0702 Jones, Ava Gr: 7

Science Behind Slime

S: Ross Academy of Creative and

Media Arts Middle School

D: ABC Unified School District

C: Espinoza, Oscar

J0703 Hamilton, Ellen Gr: 8

What Biofuel Has the Highest Energy Content

S: Portola Highly Gifted Magnet

D: LAUSD (Northwest)

C: Gramajo, Ruth

J0704 Delgado, Ali Gr: 8

Buhay, Elivia Gr: 8

Vallesteros, Kristiani Gr: 8

Kimchi Chemistry

S: Incarnation Parish School

D: Los Angeles

C: Anderson, Anna

J0705 Ayvazyan, Ella Gr: 6

Saengphaibul, Gwendolyn

Gr: 6

Which Detergent Is the Best?

S: Stratford School

D: Altadena

C: Weerasena, Viraji

J0706 Hawa, Malak Gr: 8

The Effect of Different Factors on a Chemical Reaction

S: Islamic Center of Claremont School

D: None

C: Abuali, Haneen

J0707 Leo, Allison Gr: 8

What is the Relationship Between pH and Electrical Conductivity?

S: Sierra Madre Middle School

D: Pasadena Unified School District

C: Dev Anandhan, Ravi

J0708 Robledo, Aydan Gr: 6

Fenwick, George Gr: 6

Shin, Liam Gr: 6

What Natural Preservatives Keep Fruit Fresh the Longest?

S: Stratford School

D: Altadena

C: Weerasena, Viraji

J0709 Shaikh, Nicholas Gr: 7

Slime

S: New West Charter

D: SBE - New West Charter

C: Burke, Eric

J0710 Ezadjian, Gaelle Gr: 6

Aramyan, Gohar Gr: 6

Chemistry of Ice-Cream Making:

Lowering the Freezing Point of Water

S: C & E Merdinian Armenian

Evangelical School

D: 3

C: Aviki, Silva

J0711 Decker, Anselm Gr: 8

Frankini, Stephen Gr: 8

A Queer Blue Light

S: St. Monica Academy

D: 5

C: Ghandhi, Sorab

J0712 Silva, Rashelle Gr: 7

Spherification

S: Holy Angels School

D: Archdiocese of Los Angeles

C: Galvez, Araceli

J0713 Ponnezhan, Liliana Gr: 7

Davila, Lyla Gr: 7

Tarlanian, Iren Gr: 7

What Substance Enhances 3D Scans Of Scans The Best?

S: Stratford School

D: Altadena

C: Weerasena, Viraji

J0714 Robinson, Melody Gr: 6

What Shape of Ice Melts the Fastest

S: St. Timothy

D: Archdiocese of Los Angeles

C: Novak, Christy

J0715 Ian, Revel Gr: 7

Colon, Liam Gr: 7

Baking Soda Vinegar

S: New Roads Middle School

D: Santa Monica-Malibu Unified School District

C: Alikhan, Nishat

J0716 Goei, Crystal Gr: 8

How to Freeze a Bubble

S: Holy Angels School

D: Archdiocese of Los Angeles

C: Galvez, Araceli

J0717 Bernard, Jazzlynn Gr: 6

Milk to Plastic

S: Pomona Unified School District

Junior Division

D: Pomona Unified School District

C: Gardea, Bridget

J0718 Smurda, Blaise Gr: 7

Temperature vs pH

S: St Martin of Tours School

D: Los Angeles

C: Ashas, Mohammad

J0719 Youssef, Khoren Gr: 8

Youssef, Zohrab Gr: 8

Hard Water vs Soft Water

S: Holy Martyrs Ferrahian Middle School

D: None

C: Balian Chahinian, Sanahine



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J08 • Earth / Space Sciences - Jr

J0801 Raj, Dia Gr: 8

Which Biodegradable Hydrogel Helps Conserve Water the Best?

S: Hale Charter Academy STEAM Magnet
D: LAUSD
C: Ramirez, Joanne

J0802 Galadjian, Michael Gr: 6

How Does Soil Affect Fossilization

S: St. Gregory A. & M. Hovsepian School
D: NA
C: Haroutiounian, Shakeh

J0803 Amekugee, Eliel Gr: 6

Electro Granite

S: Magnolia Science Academy 6
D: Magnolia Science Academy
C: Kim, Sarah

J0804 holmes, naima Gr: 8

Hydro-gel: Unleashing the Implications of Water for Plant Growth and Development

S: Ross Academy of Creative and Media Arts Middle School
D: ABC Unified School District
C: Espinoza, Oscar

J0805 Breinberg, Zarapheena Gr: 6

Crystal Making

S: Mark Twain Middle School
D: LAUSD
C: Burman, Jenny

**J0806 Ledesma, Noelle Gr: 6
Grigorian, Natalya Gr: 6**

Electromagnets

S: Holy Martyrs Ferrahian Middle School
D: None
C: Balian Chahinian, Sanahine

J0807 Monzon-white, Charlotte Gr: 6

What Natural Material Filters Dirty Water the Best?

S: St. Timothy
D: Archdiocese of Los Angeles
C: Novak, Christdy

J0808 Kuzoyan, Benjamin Gr: 7

Solar Power

S: La Canada Preparatory School
D: La Canada
C: Miller, Steve

J0809 Smith, Josué Gr: 7

A Strong Pull

S: Ross Academy of Creative and Media Arts Middle School
D: ABC Unified School District
C: Espinoza, Oscar

J0810 Kanse, Omkar Gr: 6

How Space Technology Can Help Reduce Climate Change?

S: Mountain Avenue Elementary School
D: Glendale Unified School District
C: Kwan, Ben

J0811 Torreflores, Beauden Gr: 6

Saltwater To Freshwater Using Solar Power

S: Incarnation Parish School
D: Los Angeles
C: Anderson, Anna

J0812 Rutner, Jackson Gr: 7

Tidal Trouble

S: Science Academy STEM Magnet (Junior Division)
D: Los Angeles Unified
C: White, Sarah

**J0813 Tashtchian, Vartan Gr: 8
Dilanian, Andrew Gr: 8
Topalian, Cristoff Gr: 8**

Ion Thruster

S: Holy Martyrs Ferrahian Middle School
D: None
C: Balian Chahinian, Sanahine



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J09 • Ecology - Jr

J0901 Karthik, Mithra Gr: 8

Can Aquatic Plants Help Stop Global Warming?

S: Hale Charter Academy STEAM Magnet
D: LAUSD
C: Ramirez, Joanne

J0902 SyedaHashmi, Zainab Gr: 7

Disappearing Act: Evaluating the Degradation of Biodegradable and Compostable Materials in Soil Composting Systems

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena

**J0903 Lee, Allison Gr: 8
Ko, Juliana Gr: 8**

Biodegradable Bread Tag

S: Rudecinda Sepulveda Dodson Gifted Magnet School
D: LAUSD Los Angeles Unified School District
C: Aki, Teresa

J0904 Hopenstand, Ariel Gr: 7

Climate Change Is No Drop in the Ocean

S: Temple Beth Am Pressman Academy
D: 0
C: Forman, Sam

J0905 Ibrahim, Mustafa Gr: 6

Crystal Clean Water: A Comparative Analysis of Solar Water Purification and Homemade Filtration Systems for Accessible Clean Drinking Water

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena

J0906 McLain, Ione Gr: 8

How Does Air Quality Relate to Home Values, Family Income, Demographics, School Rating and Performance, and Pollution Burden?

S: Science Academy STEM Magnet (Junior Division)
D: Los Angeles Unified
C: White, Sarah

J0907 Imran, Asad Gr: 6

The Effect of Elevation on Air Quality.

S: Al-Huda Islamic School
D: Hawthorne/Private
C: Alshanableh, Rula

J0908 Etheridge, Lucas Gr: 6

Amazing Mold

S: Mountain Avenue Elementary School
D: Glendale Unified School District
C: Kwan, Ben

J0909 Sacino, Liam Gr: 7

One Man's Trash Is Another Man's Treasure

S: Incarnation Parish School
D: Los Angeles
C: Anderson, Anna

J0910 Boghossian, Talia Gr: 8

Do not Worry About Plastic, We Have Worms!

S: Chamlian Armenian School
D: GUSD
C: Gevorkian, Iida

J0911 Mejia, Keyty Gr: 8

Water Purification

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

J0912 Wittnebel, Charles Gr: 7

Testing Soil Lead Levels Near and Around Santa Monica Airport

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad

J0913 Neri, Nathan Gr: 8

Concrete vs Plants What Hurts the Environment More

S: Lashon Academy
D: Los Angeles County Office of Education
C: Abelson, Jonathan

J0914 Song, Yuri Gr: 7

Organic vs. Inorganic: The Effect of Organic Soap on Algae Growth

S: Archer School for Girls (Junior)
D: Private
C: Neshek, Jerilyn

J0915 Vahramyan, Arina Gr: 7

Just Water Under the Bridge?

S: La Canada Preparatory School
D: La Canada
C: Miller, Steve

J0916 Santamaria, Beatrice Gr: 8

Global Worming

S: Incarnation Parish School
D: Los Angeles
C: Anderson, Anna

J0917 Herbert, Sophie Gr: 8

Iron You Mad plron You Mad Planaria Are Struggling: How Heavy Metals Impact Planarian Regenerationlanaria are struggling: How Heavy Metals Impact Planarian Regeneration

S: Archer School for Girls (Junior)
D: Private
C: Neshek, Jerilyn



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division J10 • Engineering Applications - Jr

J1001 Abgaryan, Davit Gr: 7

Building a Nuclear Fuser and Testing Its Efficiency Compared to Traditional Power Plant

S: C & E Merdianian Armenian Evangelical School
D: 3
C: Aviki, Silva

J1002 Tang, Kevin Gr: 6

SkyEye: A Smart Helmet to Save Soldiers' Lives

S: Cedarlane Academy
D: Hacienda La Puente Unified
C: Gabela, Jessica

J1003 Vahdat, Paria Gr: 8

Creating An Environmentally Conscious Approach to Solar Heating For Houses

S: Science Academy STEM Magnet (Junior Division)
D: Los Angeles Unified
C: White, Sarah

J1004 Sani, Ramsey Gr: 7

Designing a Homemade Hydroponics Tower

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

J1005 Baligh, Sahara Gr: 7

Making a Biodegradable Plastic Out of Algae

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

J1006 Halari, Samia Gr: 7

Making a Kidney Model That Demonstrates How a Kidney Functions

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

**J1007 Barajas, Etthan Gr: 6
Sagastume, Ivan Gr: 6
Romero, Ethan Gr: 6**

Lean Back

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

J1008 Tomooka, Mary Gr: 7

Which Bridge Will Hold the Most Weight During an Earthquake

S: St. Monica Academy
D: 5
C: Ghandhi, Sorab

**J1009 Hernandez, Arianna Gr: 6
Flores, Sophie Gr: 6**

Conductivity Chronicles

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

**J1010 Ferman, Jordana Gr: 7
Zack, Charlotte Gr: 7**

How Do High Heels Affect Bone and Muscle

S: Temple Beth Am Pressman Academy
D: 0
C: Forman, Sam

J1011 Warren, Kaylee Gr: 8

How Does Wing Shape Affect Paper Airplane Flight?

S: Hale Charter Academy STEAM Magnet
D: LAUSD
C: Ramirez, Joanne

J1012 Semaan, Justin Gr: 6

Generating Electricity From Wind

S: Pomona Unified School District Junior Division
D: Pomona Unified School District
C: Gardea, Bridget

J1013 Grigoryan, David Gr: 7

Wind Force

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

J1014 Moccia, Eden Gr: 7

The Future of Fast Food Containers: The Carrot

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth

J1015 Frayde, Eric Gr: 7

The Future Hovercraft

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

J1016 Agasian, Levon Gr: 7

**Poghosyan, Sargis Gr: 7
Menedzhyan, Aveits Gr: 7**

Jumping Frog

S: C & E Merdianian Armenian Evangelical School
D: 3
C: Aviki, Silva

J1017 Lau, Luke Gr: 8

How Fast Can a Robot React to Light?

S: Assumption of the Blessed Virgin Mary, Pasadena
D: Archdiocese of Los Angeles
C: Boldt, Patrick

**J1018 Hernandez, Scarlett Gr: 6
Rivera, Tiffany Gr: 6**

Let's Go For a Ride

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

J1019 Jiang, Madeleine Gr: 8

Preventing Hot Car Fatalities With the Help of Technology

S: Ridgecrest Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J1020 Santiago, Nikhie May Gr: 7

Will It Still Work in the Winter?

S: Ross Academy of Creative and Media Arts Middle School
D: ABC Unified School District
C: Espinoza, Oscar

**J1021 Merzian, Daniel Gr: 6
Grigorian, Michael Gr: 6**

How Much Money Can You Save on Water?

S: C & E Merdianian Armenian Evangelical School
D: 3
C: Aviki, Silva

**J1022 Padilla, Ethan Gr: 6
Hernandez, Maribel Gr: 6
Navarro, Jessie Gr: 6**

Show Me the Money

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division J10 • Engineering Applications - Jr

J1023 David , Kenzo Gr: 8

Does Magnet Strength Affect a Maglev's Speed

S: Hale Charter Academy STEAM Magnet
D: LAUSD
C: Ramirez, Joanne

J1024 Hokhikyan, Arpi Gr: 7

Fuel of the Future

S: C & E Merdianian Armenian Evangelical School
D: 3
C: Aviki, Silva

J1025 Loza, Nathan Gr: 8

Energy on Mars!

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

J1026 arora, Anant Gr: 8

Human Powerd Energy Harvester

S: Magruder Middle School
D: Torrance unified school District
C: arora, payal

J1027 Kwon, Irene Gr: 8

Rosalado, Mariella Gr: 8

Automated Plant Watering System

S: Rudecinda Sepulveda Dodson Gifted Magnet School
D: LAUSD Los Angeles Unified School District
C: Aki, Teresa

J1028 Luciano, Jordin Gr: 8

Nguyen, Nathan Gr: 8

Solar Powered Car

S: Rudecinda Sepulveda Dodson Gifted Magnet School
D: LAUSD Los Angeles Unified School District
C: Aki, Teresa

J1029 Oshev, Simon Gr: 8

Goodman, Evan Gr: 8

Chill Pill: A Portable, Solar-Powered Prototype for Medication Storage for the Unhoused

S: Science Academy STEM Magnet (Junior Division)
D: Los Angeles Unified
C: White, Sarah

J1030 Ramirez, Anthony Gr: 7

Correia , Jayden Gr: 7

The Quicker Sucker Upper

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

J1031 Raso Santos, Michelle Gr: 6

Pichardo, Javier Gr: 6

Paez, Sophie Gr: 6

Resilient Residence

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

J1032 Tuazon, Ezhreillah Gr: 8

Card Shuffler

S: Rudecinda Sepulveda Dodson Gifted Magnet School
D: LAUSD Los Angeles Unified School District
C: Aki, Teresa

J1033 Sampath, Risha Gr: 7

Ferrie, Karina Gr: 7

A Street-Based Device to Capture Rainwater

S: Harvard-Westlake School – Junior Division
D: None
C: Cardin, Nate

J1034 Satria, Sagi Gr: 7

Remote Controlled Homemade Electric Skateboard

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

J1035 Chikati, Sai Tej Chikarti Gr: 7

Nayak, Gurudev Gr: 7

Don't Sleep

S: Rancho Pico Junior High School
D: William S. Hart Union High School District
C: Nicholas, Catherine

J1036 Arevalo, Gerson Gr: 7

juarez, matthew Gr: 7

Carrasco , Pedro Gr: 7

Helping the Homeless

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

J1037 Jarjoura, Luca Gr: 8

Pedal to Power

S: New Roads Middle School
D: Santa Monica-Malibu Unified School District
C: Alikhan, Nishat

J1038 Barron, Luis Gr: 8

Does the Amount of Time a Charge Cycle Is Conducted Affect a Leyden Jar's Energy Capacity?

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

J1039 Cravens, Lani Gr: 6

Dizon, Savanna Gr: 7

Palm Tree Climbing Robot

S: Rudecinda Sepulveda Dodson Middle School
D: LAUSD-South
C: Sarmiento, Wilmer

J1040 Kim, Natalie Gr: 6

How to Survive Without Clean Water

S: Cathedral Chapel School
D: Archdiocese of Los Angeles
C: Mitchell, Donielle

J1041 CHI, PETER ARIEL Gr: 6

Shoes That See

S: Oak Hills Elementary School
D: Newhall School District
C: Henry, Jarrod

J1042 Siguenza, Bryana Gr: 6

Palacios, Heidy Gr: 6

Rising Waters Rising Problems

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

J1043 Martinez , Daniel Gr: 8

Ruiz, Daniel Gr: 8

Energy With Wind

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

J1044 Choi, Heather Gr: 8

Smart Waste Bin

S: Rudecinda Sepulveda Dodson Gifted Magnet School
D: LAUSD Los Angeles Unified School District
C: Aki, Teresa



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J10 • Engineering Applications - Jr

J1045 Choi, Kiana Gr: 6
Pak, Hanna Gr: 6

Windshield Wipers for Eyeglasses

S: Rudecinda Sepulveda Dodson
Middle School
D: LAUSD-South
C: Sarmiento, Wilmer

J1046 Maciel, Josie Gr:

Hydraulic Elevator

S: Oak Street Tk-8 School
D: Inglewood District
C: Orellana, Lineth



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division J11 • Engineering Research - Jr

J1101 Collins-Lopez, Cory Gr: 8

How AI can Make Video Game Development Faster and More Immersive

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

J1102 Paik, Ellie Gr: 8

Creating an Efficient Air Conditioner

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth

**J1103 Gonzalez, Jacob Gr: 6
Garcia, Angel Gr: 6**

Sail Away

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

**J1104 Sherman, Olivia Gr: 7
Norwood, Nina Gr: 7**

Building a Ferris Wheel

S: Cathedral Chapel School
D: Archdiocese of Los Angeles
C: Mitchell, Donielle

J1105 Lavi, Ruben Gr: 7

Why Are Airplanes So Over Engineered?

S: St. Gregory A. & M. Hovsepien School
D: NA
C: Haroutiounian, Shakeh

J1106 Hernandez, Jeanette Gr: 8

Mars City 2050

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

**J1107 Hsu, Wesley Gr: 8
Chan, Andrew Gr: 8
Gu, Crystal Gr: 8**

Using Design of Experiments to Optimize Paper Helicopter Flight Time

S: Ridgecrest Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J1108 Lasky, Keira Gr: 6

Cars Enlighten Me

S: Walter Reed Middle School
D: Los Angeles Unified School District
C: Sofio, Joyann

J1109 Jones, Kenny Gr: 8

The Future of Cross Laminated Timber (CLT) in the United States

S: Palos Verdes Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J1110 Sonawane, Aarav Gr: 6

How Has Technology Impacted Diabetes Management?

S: Oak Hills Elementary School
D: Newhall School District
C: Henry, Jarrod

J1111 Chavez, Emely Gr: 8

JES Hoverboard

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

**J1112 Campos, Melanie Gr: 6
Combs, Kloe Gr: 6
Cervantes, Sylvia Gr: 6**

Safe Havens

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

J1113 Garcia, TRUE Gr: 8

Lans Hovercraft

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

**J1114 Dyrek, Jefferson Gr: 8
Munguia, Ethan Gr: 8**

Is iPhone Radiation a Prominent Issue?

S: Holy Angels School
D: Archdiocese of Los Angeles
C: Galvez, Araceli

J1115 Sanchez, Eduardo Gr: 8

Za Magnetic Bullet

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

J1116 Qureshi, Zoya Gr: 7

A Novel Desalination Method

S: La Canada Preparatory School
D: La Canada
C: Miller, Steve

J1117 Escandon, Austin Gr: 6

Driving on the Color Spectrum

S: Pomona Unified School District
Junior Division
D: Pomona Unified School District
C: Gardea, Bridget

J1118 Habib, Hamza Gr: 8

Solar Panel Car

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

J1119 Aceves, Juliette Gr: 6

Robo-P-Finder

S: Rudecinda Sepulveda Dodson Middle School
D: LAUSD-South
C: Sarmiento, Wilmer

**J1120 Schneider, Sara Gr: 7
Avakian, Georgia Gr: 7**

Solar Powered Irrigation System

S: C & E Merdianian Armenian Evangelical School
D: 3
C: Aviki, Silva

J1121 Odorczyk, Elena Gr: 7

Materials Reducing Noise Pollution

S: Pomona Unified School District
Junior Division
D: Pomona Unified School District
C: Gardea, Bridget

**J1122 Zenon, Randy Gr: 7
Dominguez, Bayron Gr: 7
Gomez, Brandon Gr: 7**

DriftBoard

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

J1123 Galindo, Alizelle Gr: 7

Electric Solar Panel Car

S: Montebello Intermediate School
D: Montebello Unified School District
C: Aragon, Karina

J1124 Aljabi, Zohar Gr: 8

Air Squad! Examining the Impact of Payload Mass on Drone Battery Performance

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J11 • Engineering Research - Jr

J1125 Hekimyan, Arthur Gr: 7
Melkonyan, David Gr: 7

Under the Sea

S: C & E Merdianian Armenian
Evangelical School
D: 3
C: Aviki, Silva

J1126 Lane, Margaux Gr: 8

*Measuring the Strength of Different I-
Beam Types*

S: Science Academy STEM Magnet
(Junior Division)
D: Los Angeles Unified
C: White, Sarah



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division J12 • Environmental Management - Jr

J1201 Kangaroo, Jolie Gr: 8

Can Aquatic Plants Decrease Ocean Acidity?

S: Hale Charter Academy STEAM Magnet
D: LAUSD
C: Ramirez, Joanne

**J1202 Anokwute, Victoria Gr: 6
Toruno, Jhune Gr: 6**

Which Accessible Tool Collects Oil the Best?

S: Rudecinda Sepulveda Dodson Middle School
D: LAUSD-South
C: Sarmiento, Wilmer

**J1203 Shin, Chloe Gr: 7
Chua, Jianna Gr: 7**

Bio-Degradable Pads

S: Rudecinda Sepulveda Dodson Middle School
D: LAUSD-South
C: Sarmiento, Wilmer

**J1204 Rao, Vinay Gr: 7
Chiu, Justin Gr: 7**

How Does the Distance From the I-210 Freeway Impact Air Quality?

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

**J1205 Saini, Mitali Gr: 8
Gerety, Shannon Gr: 8**

Pollution's Evolution

S: St. Timothy
D: Archdiocese of Los Angeles
C: Novak, Christdy

J1206 Yenugonda, Tanmay Gr: 8

Harnessing Eco-Friendly Nano-Emulsions to Prevent Ocean Oil Spills

S: Hale Charter Academy STEAM Magnet
D: LAUSD
C: Ramirez, Joanne

**J1207 Tslikian, Anaida Gr: 8
Husany, Sapphire Gr: 8**

Frosty Flora

S: Lashon Academy
D: Los Angeles County Office of Education
C: Abelson, Jonathan

J1208 Darvish, Jacob Gr: 6

Yashar, Ian Gr: 6

Asher, Jacob Gr: 6

Finding Filters

S: Beverly Vista Middle School
D: Beverly Hills Unified School District
C: Langevin, Alyssa

J1209 Bakshian, Sophia Gr: 8

Water Filtration

S: Beverly Vista Middle School
D: Beverly Hills Unified School District
C: Langevin, Alyssa

J1210 Arunachalam, Vivek Gr: 6

Water Filter Using Organic Materials

S: Mountain Avenue Elementary School
D: Glendale Unified School District
C: Kwan, Ben

J1211 Simon, Zachary Gr: 6

Investigating Volcanoes

S: New West Charter
D: SBE - New West Charter
C: Burke, Eric

J1212 Anderson, Nolan Gr: 6

Healthy Habitats

S: Pomona Unified School District Junior Division
D: Pomona Unified School District
C: Gardea, Bridget

J1213 Murad, Abdullah Gr: 6

Soak It Up! Which Material Best Cleans an Oil Spill From Water.

S: Al-Huda Islamic School
D: Hawthorne/Private
C: Alshangleh, Rula

J1214 Ravisankar, Arumin Gr: 6

Sunsync Irrigation System

S: Oak Hills Elementary School
D: Newhall School District
C: Henry, Jarrod

J1215 Chung, Edwin Gr: 7

What's In Your Water

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth

J1216 Stevens, Lila Gr: 8

Can I Design a Living Roof Cover for the Average Homeowner

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

J1217 Pestes, Max Gr: 8

Sapire, Isaac Gr: 8

Extracting Microplastics From Water Using Varying Amounts, Types and Consistencies of Mucilage.

S: Science Academy STEM Magnet (Junior Division)
D: Los Angeles Unified
C: White, Sarah

J1218 Waterman, Benjamin Gr: 8

Clump of the Litter

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad

J1219 Waterman, Samuel Gr: 6

Extracting Oil from Water

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad

J1220 Rivera, Alicia Gr: 8

Air Particles in Sunsets

S: Holy Angels School
D: Archdiocese of Los Angeles
C: Galvez, Araceli

J1221 Atkins, Payton Gr: 7

Water Purification

S: St. Timothy
D: Archdiocese of Los Angeles
C: Novak, Christdy

J1222 Cru, Joseph Gr: 8

Water Quality Around the World

S: Holy Angels School
D: Archdiocese of Los Angeles
C: Galvez, Araceli

J1223 Sabah, Raadiya Gr: 8

Automatic Recycle Bin With a Treat

S: Rudecinda Sepulveda Dodson Gifted Magnet School
D: LAUSD Los Angeles Unified School District
C: Aki, Teresa



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J12 • Environmental Management - Jr

J1224 Torosyan, Allen Gr: 7

*Black Soldier Fly Larvae can Reduce
Greenhouse Gas and Deliver Protein
and Fertilizer*

S: La Canada Preparatory School
D: La Canada
C: Miller , Steve

J1225 Park, Ivy Gr: 6

Keep the Ice Rink Cool!

S: Walter Reed Middle School
D: Los Angeles Unified School District
C: Sofio, Joyann

J1226 Barrios, Ava Gr: 8

Vermicomposting vs Hot Composting

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

J1227 Sarkeshik, Ryan Gr: 8

*Global Warming Mitigation: Optimizing
CO2 Removal of Algae Farming*

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division J13 • Materials Science - Jr

J1301 Kim and Sellier, Sena and Seychelle Gr: 6

Seaweed Biofabrics

S: Incarnation Parish School
D: Los Angeles
C: Anderson, Anna

J1302 Denicke, Max Gr: 6

Stanley Cup Challenge

S: St. Timothy
D: Archdiocese of Los Angeles
C: Novak, Chrisdty

J1303 Butag, Nahum Gr: 6

Which Color Absorbs the Most Light?

S: Pomona Unified School District
Junior Division
D: Pomona Unified School District
C: Gardea, Bridget

J1304 Lopez, Yoselin Gr: 8

Rock Candy Crystal Growth

S: Lashon Academy
D: Los Angeles County Office of
Education
C: Abelson, Jonathan

J1305 Abouljian, Dvin Gr: 7

The Effect of Different Pipes on Water Quality

S: Chamlian Armenian School
D: GUSD
C: Gevorkian, Iida

J1306 Sulbaek Andersen, Levi Gr: 8

How Effective is Mitigating the Impact of Climate Change

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

J1307 Ruiz, Ariana Gr: 8 Ruiz, Ariana Gr: 8 Murphy, Megan Gr: 8

Which Fabric is the Most Absorbent?

S: Holy Angels School
D: Archdiocese of Los Angeles
C: Galvez, Araceli

J1308 Lozano, Bailey Gr: 7

Pearl-fect Boba

S: New Roads Middle School
D: Santa Monica-Malibu Unified School
District
C: Alikhan, Nishat

J1309 Shanoian, Peter Gr: 8 Martirosyan, David Gr: 8

Simple Filtration Device-Which Filter Cleans The Best?

S: C & E Merdinian Armenian
Evangelical School
D: 3
C: Aviki, Silva

J1310 Grady, Evan Gr: 7

Biodegradable Hydrogels: Better packing solution?

S: St. Timothy
D: Archdiocese of Los Angeles
C: Novak, Chrisdty

J1311 Hashimi, Sanah Gr: 6

Testing How Much Heat Turf Can Retain With and Without Friction

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

J1312 Martinez, Elizabeth Gr: 6

Will It Last?

S: Magnolia Science Academy 6
D: Magnolia Science Academy
C: Kim, Sarah

J1313 Teodoro-Soto, Isabel Gr: 6

Keep it Cool

S: Magnolia Science Academy 6
D: Magnolia Science Academy
C: Kim, Sarah

J1314 Dao, Sophia Gr: 8

Radiation in Everyday Electronic Devices

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth

J1315 Sokolova, Vlada Gr: 6

Melted Ice and Rice

S: Walter Reed Middle School
D: Los Angeles Unified School District
C: Sofio, Joyann

J1316 Awawdeh, Ahmad Gr: 6

Which Material Will Block a Wi-Fi Signal the Most?

S: Al-Huda Islamic School
D: Hawthorne/Private
C: Alshanaheh, Rula

J1317 Parry, Iago Gr: 7 Shi, Jonathan Gr: 7 Farr Johnstone, Otto Gr: 7

Hot Magnet, Cold Magnet, Strong Magnet, Weak Magnet

S: New Roads Middle School
D: Santa Monica-Malibu Unified School
District
C: Alikhan, Nishat

J1318 Oh, Helena Gr: 6

Bending Pointe

S: Walter Reed Middle School
D: Los Angeles Unified School District
C: Sofio, Joyann

J1319 Kim, Mina Gr: 7

Fantastic Plastic

S: Incarnation Parish School
D: Los Angeles
C: Anderson, Anna

J1320 Dardashti, Shahrzad Gr: 8 kruger, Evelyn Gr: 8

Powerful Power Poles

S: Beverly Vista Middle School
D: Beverly Hills Unified School District
C: Langevin, Alyssa

J1321 Koneri, Avneesh Gr: 8

Which Screen Protector Blocks the Most Blue Light?

S: Hale Charter Academy STEAM
Magnet
D: LAUSD
C: Ramirez, Joanne

J1322 Hoffman, Hadassah Gr: 7

What Type of Paper Makes a Paper Airplane Fly Best?

S: Temple Beth Am Pressman
Academy
D: 0
C: Forman, Sam

J1323 Husaini, Kamran Gr: 6

Testing the Efficiency of Cool Roof Shingles

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

J1324 Barrera, Julio Gr: 8 Logan, Jared Gr: 8

Homemade vs MLB Baseballs

S: Holy Angels School
D: Archdiocese of Los Angeles
C: Galvez, Araceli



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division

J14 • Mathematics & Computer Sciences - Jr

J1401 Tang, Hollie Gr: 8

PandaTyping: An Effortless Chinese Typing Methodology Directly Using English

S: Cedarlane Academy
D: Hacienda La Puente Unified
C: Gabela, Jessica

J1402 Juneau, Jacob Gr: 8
Mansour, Matthew Gr: 8

Making AES256Bit Encryption Faster

S: Miraleste Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J1403 Garg, Arnab Gr: 8

2.5 CNN: 2D Leveraging 2D CNNs to Pretrain 3D Models

S: Ridgecrest Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J1404 Gloria, Chirsten Gr: 8
Ibatuan, Jhiliane Gr: 8
Gonzalez, Isabella Gr: 8

Arduino Car Seat Safety System to Prevent Forgotten Baby Syndrome

S: Rudecinda Sepulveda Dodson Gifted Magnet School
D: LAUSD Los Angeles Unified School District
C: Aki, Teresa

J1405 Bangayan, Daniel Gr: 6

Planet Clicker

S: Chaminade Middle School
D: 3
C: Bangayan, Phil

J1406 Fischer, Rhys Gr: 8

Can Creating an App Help Users Read Sheet Music?

S: Hale Charter Academy STEAM Magnet
D: LAUSD
C: Ramirez, Joanne

J1407 Abdul-Matin, Ismael Gr: 7

Preventing Death by Blood Clot: Starting with Stented Patients

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

J1408 Garvey, Juliette Gr: 8

Fractals!: Does the Mandelbrot Set Get More Complicated as the Exponent of Z Increases?

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

J1409 Premjith, Tvisha Gr: 7

Deepfake Detective

S: Rancho Pico Junior High School
D: William S. Hart Union High School District
C: Nicholas, Catherine

J1410 Arunachalam, Pranav Gr: 8

An Ensemble of Deep Learning Models: Detection and Classification of Diabetic Retinopathy

S: Rosemont Middle School
D: Glendale Unified School District
C: Risse, Suzanne

J1411 Malin, Oliver Gr: 6
Goldsmith, Matai Gr: 6

Keyboard Layouts and Switches

S: New West Charter
D: SBE - New West Charter
C: Burke, Eric

J1412 Payasam, Satyajith Naidu Gr: 7

Operation Ouch My Stomach Hurts : Pediatric Appendicitis Detection Using Machine Learning

S: Rosemont Middle School
D: Glendale Unified School District
C: Risse, Suzanne

J1413 Paxton, Cameron Gr: 8
Amante, Adam Gr: 8

AI Sign Language Recognizer

S: Rudecinda Sepulveda Dodson Gifted Magnet School
D: LAUSD Los Angeles Unified School District
C: Aki, Teresa

J1414 Hill, Lena Gr: 6
Bennett, Katherine Gr: 6
Sarmiento, Elise Gr: 7

Visual Traffic Assistant

S: Rudecinda Sepulveda Dodson Middle School
D: LAUSD-South
C: Sarmiento, Wilmer

J1415 Varghese, Sarah Gr: 8

Identifying the Most Efficient Object Recognition Algorithm to Assist the Visually Impaired Using Machine Learning, Optimized for Mobile Applications

S: Ridgecrest Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J1416 Sanyal, Shreya Gr: 8

What's the Cipher for Your Message?

S: Ridgecrest Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J1417 Boynerian, Vem Gr: 8

Is There Varied Efficiency for Different Size Blocks and for Computer Performance in Roblox Studio?

S: Chamlian Armenian School
D: GUSD
C: Gevorkian, lida

J1418 Tamsky, Ari Gr: 7

Nothing Up My Sleeve: Hashing Without Secrets

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth

J1419 Ayuste, Dominic Gr: 8

Weather Wisdom: Which Neural Network Predicts Weather the Best?

S: St. Timothy
D: Archdiocese of Los Angeles
C: Novak, Christdy

J1420 Lee, Ian Gr: 8

Is Your Password Strong Enough?

S: Rancho Pico Junior High School
D: William S. Hart Union High School District
C: Nicholas, Catherine



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J15 • Microbiology - Jr

J1501 Avila, Olivia Gr: 8

Beauty and The Beast: Bacteria in Makeup Testers

S: Arroyo Seco Museum Science Magnet
D: LAUSD
C: Griffith, Laura

J1502 Pineda, Sophia Gr: 6

Bacteria at School: Where Are They Now?

S: Assumption of the Blessed Virgin Mary, Pasadena
D: Archdiocese of Los Angeles
C: Boldt, Patrick

J1503 Colton, Ines Gr: 6

The Five Second Rule

J1504 Kurc, Maya Gr: 7

I've Got Your Bac: What Part of the Bathroom Has the Most Bacteria?

S: Archer School for Girls (Junior)
D: Private
C: Neshek, Jerilyn

J1505 Kellelyan, Maryana Gr: 8

Bacterial Growth From Disinfectants

S: St. Gregory A. & M. Hovsepien School
D: NA
C: Haroutiounian, Shakeh

J1506 Nasiri, Arnika Gr: 8

What Is the Effect of Antibiotics on Gram-Positive and Gram-Negative Bacteria?

S: Hale Charter Academy STEAM Magnet
D: LAUSD
C: Ramirez, Joanne

J1507 Park, Jayden Gr: 7

Kim, Aiden Gr: 7

What is a MFC?

S: Science Academy STEM Magnet (Junior Division)
D: Los Angeles Unified
C: White, Sarah

J1508 Murali, Kavya Vidya Gr: 8

Rhizophagus Irregularis and Soybean Germination

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth

J1509 Landeros, Aelaina Gr: 7

Delfin, Tessa Gr: 7

Bacteria on Popular Sephora Product Testers

S: St. Timothy
D: Archdiocese of Los Angeles
C: Novak, Chrisdy

J1510 Assuied, Eytan Gr: 8

Will Sourdough Starter Density Decrease When Ambient Temperature Rises?

S: Lashon Academy
D: Los Angeles County Office of Education
C: Abelson, Jonathan

J1511 Smith, Mikaela Gr: 7

Vergara, Isabelle Gr: 7

Bacteria vs. Soap

S: Holy Angels School
D: Archdiocese of Los Angeles
C: Galvez, Araceli

J1512 Shepela, Elle Gr: 8

Clean: Which Disinfectant is the Most Effective

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J16 • Pharmacology - Jr

J1601 Pemba, Jasel Gr: 6

Dissolving Aspirin Faster

S: Walter Reed Middle School

D: Los Angeles Unified School District

C: Sofio, Joyann

J1602 Mohindra, Arjun Gr: 6

What is the Effect of Red Bean

Essence and Snail Mucin on Skin Like Substances

S: Rudecinda Sepulveda Dodson

Middle School

D: LAUSD-South

C: Sarmiento, Wilmer

J1603 Parry, Asha Gr: 8

PD Investigation: The Effects Over-The-Counter Medications (Apigenin, Dopamine and Fisetin) Have on Reducing Parkinson's Disease Symptoms Over Time

S: Archer School for Girls (Junior)

D: Private

C: Neshek, Jerilyn

J1604 Srinivasan, Jaya Gr: 8

Rise of Resistance: Influence of Natural vs. Prescribed Antibiotics on E. coli

S: Archer School for Girls (Junior)

D: Private

C: Neshek, Jerilyn

J1605 Chalian, Ani Gr: 8

Radical Rescue: Vitamin C Face-Off

S: St. Gregory A. & M. Hovsepian School

D: NA

C: Haroutiounian, Shakeh

J1606 Mayne, Jaqueline Gr: 8

AMP Up the Bacterial Resistance; How does Ampicillin and Bacteriophage T4 Impact Antibiotic Resistant E.coli

S: Archer School for Girls (Junior)

D: Private

C: Neshek, Jerilyn



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division

J17 • Physics - Aerodynamics/Hydrodynamics - Jr

J1701 Naseer, Adam Gr: 8

Efficiency at Its Finest: Investigating Factors Influencing Wind Turbine Performance

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena

J1702 Brown, Kai Gr: 8

Designing a Commuter Car to Optimize Aerodynamic Efficiency and EMPG

S: Ridgecrest Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J1703 Sarkisyan, Aram Gr: 8

How Does the Mpemba Effect Work

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth

J1704 Vodnoy, Jeffrey Gr: 8

How Different Balls' Velocity Are Affected by a Pitching Machine

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

J1705 Esquivel, Natalie Gr: 8

Don't Drag On

S: Assumption of the Blessed Virgin Mary, Pasadena
D: Archdiocese of Los Angeles
C: Boldt, Patrick

J1706 Saini, Meet Gr: 7

The Epic Catapult!

S: Ross Academy of Creative and Media Arts Middle School
D: ABC Unified School District
C: Espinoza, Oscar

J1707 Gomez, Anderson Gr: 7

Free Fall!!

S: Magnolia Science Academy 6
D: Magnolia Science Academy
C: Kim, Sarah

J1708 Jones, Calvin Gr: 8

What Is the Most Efficient Propeller Design?

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

J1709 Stuart, Henry Gr: 6

Reducing Noise Pollution Underwater

S: Walter Reed Middle School
D: Los Angeles Unified School District
C: Sofio, Joyann

J1710 Amirouche, Abdellah Gr: 6

Which Paper Plane Design Travels the Furthest.

S: Al-Huda Islamic School
D: Hawthorne/Private
C: Alshanaheh, Rula

J1711 Sturcke, Diego Gr: 6

Air Powered Fun

S: Oak Hills Elementary School
D: Newhall School District
C: Henry, Jarrod

J1712 Varandmal, Shayla Gr: 6

Model Rockets: Fin Lengths

S: Pomona Unified School District
Junior Division
D: Pomona Unified School District
C: Gardea, Bridget

J1713 Owen, Anders Gr: 7

Helium Soccer Ball

J1714 Friedman, Evan Gr: 8

Forward Swept Wing Aircraft

S: Rancho Pico Junior High School
D: William S. Hart Union High School District
C: Nicholas, Catherine

J1715 McKean, Gavin Gr: 8

Is the Truss-Braced Wing Design More Efficient Than a Fixed Wing Design?

S: Hale Charter Academy STEAM Magnet
D: LAUSD
C: Ramirez, Joanne

J1716 Kristensen, Max Gr: 6

Does Water Temperature Impact Charles' Law?

S: Mark Twain Middle School
D: LAUSD
C: Burman, Jenny



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division

J18 • Physics - Electricity & Magnetism - Jr

J1801 Park, Emily Gr: 6

Magnets and Temperature

S: Walter Reed Middle School
D: Los Angeles Unified School District
C: Sofio, Joyann

J1802 Ahmed, Ibraheem Gr: 6

Using a Makey Makey to Test Whether Objects Are Conductive

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

J1803 Hawa, Yasmeen Gr: 8

Magnetic Cereal

S: Islamic Center of Claremont School
D: None
C: Abuali, Haneen

J1804 Ajamian, Aleksander Gr: 7

How Does a Maglev Train Stop?

S: St. Gregory A. & M. Hovsepian School
D: NA
C: Haroutiounian, Shakeh

J1805 Aggarwal, Shivam Gr: 8

Electricity From Freezing Water

S: Rancho Pico Junior High School
D: William S. Hart Union High School District
C: Nicholas, Catherine

J1806 Martin, Sophia Gr: 8

Electromagnetic Fields Emitted From Different Electric Vehicles

S: Chamlian Armenian School
D: GUSD
C: Gevorkian, Iida

J1807 Gonzales, Emilia Gr: 7

Ayala, Samantha Gr: 7

Bonilla, Grecia Gr: 7

Bright Lights

S: Pomona Unified School District Junior Division
D: Pomona Unified School District
C: Gardea, Bridget

J1808 Barsamian, Adam Gr: 6

Solar Madness!

S: Incarnation Parish School
D: Los Angeles
C: Anderson, Anna

J1809 Arakelyan, Nareh Gr: 6

How Much Voltage Does a Battery Use to Operate an Object?

S: St. Gregory A. & M. Hovsepian School
D: NA
C: Haroutiounian, Shakeh

J1810 Barrack, Sierra Gr: 7

Strength of an Electromagnet

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad

J1811 Kim, Ashley Gr: 8

Vizcarra, Sophie Gr: 8

Solar-Powered Bus Stop Lights

S: Rudecinda Sepulveda Dodson Gifted Magnet School
D: LAUSD Los Angeles Unified School District
C: Aki, Teresa

J1812 Quire, Jacob Gr: 6

Self Propelled Electromagnetic Train

S: Mark Twain Middle School
D: LAUSD
C: Burman, Jenny

J1813 Engle, Colton Gr: 7

How Time Affects Solar Energy

S: St. Timothy
D: Archdiocese of Los Angeles
C: Novak, Chrisdy

J1814 Entabi, Jude Gr: 6

Testing the Voltage of Fruit Batteries

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

J1815 Egan, Jack Gr: 6

Maglev Trains

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad

J1816 O'Brien, Liam Gr: 7

Unraveling the Shape of DNA - An Optical Scale Model of X-Ray Diffraction for Biological Molecules

S: Turning Point School
D: independent
C: kline, matthew

J1817 Dadabhoy, Waleed Gr: 6

Chill Tech: Innovative Cooling Solutions for High-Performance Mobile Computing

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena

J1818 Conde Osorio, Natalie Gr: 7

Light Up the Night

S: Magnolia Science Academy 6
D: Magnolia Science Academy
C: Kim, Sarah



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division J19 • Physics - General - Jr

J1901 Nava, Isaac Gr: 6***Weight And Distance***

S: Pomona Unified School District
Junior Division
D: Pomona Unified School District
C: Gardea, Bridget

J1902 Yac-Ramirez , Luis Gr: 6***Catapult Catch***

S: Magnolia Science Academy 6
D: Magnolia Science Academy
C: Kim, Sarah

J1903 Ismaeel , Noura Gr: 6***To Drink or to Not: Which Form of Drinking Water Is the Purest***

S: Islamic Center of Claremont School
D: None
C: Abuali, Haneen

J1904 Hamilton, Robert Gr: 8***How Does the Viscosity of a Liquid Affect the Liquid's Ability to Reduce Friction Between Two Objects?***

S: Assumption of the Blessed Virgin Mary, Pasadena
D: Archdiocese of Los Angeles
C: Boldt, Patrick

J1905 Amla, Mifrah Gr: 8***Floating Egg***

S: Islamic Center of Claremont School
D: None
C: Abuali, Haneen

**J1906 Garcia, Jacob Gr: 6
Barrios, Dylan Gr: 6*****Lets Get Kicking***

S: Bell Gardens Intermediate School
D: Montebello Unified School District
C: Merilus, Catheline

**J1907 Audu, Sophie Gr: 8
Figueroa, Noah Gr: 8
Onuigbo, Charles Gr: 8*****Battling Heat With Colors***

S: Rudecinda Sepulveda Dodson Gifted Magnet School
D: LAUSD Los Angeles Unified School District
C: Aki, Teresa

**J1908 Trazo, Devereaux Gr: 6
Polk, Carter Gr: 6*****Lunatic Loops***

S: Assumption of the Blessed Virgin Mary, Pasadena
D: Archdiocese of Los Angeles
C: Boldt, Patrick

J1909 Negron, Daisy Gr: 8***Will More Water in a Bottle Rocket Cause It to Fly Higher?***

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

J1910 Capulong, Jace Gr: 6***The Magic Water Fountain***

S: Assumption of the Blessed Virgin Mary, Pasadena
D: Archdiocese of Los Angeles
C: Boldt, Patrick

J1911 Ehrich, Walker Gr: 7***The Materials of Silence***

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad

J1912 An, Aiden Gr: 6***The Reality of Corrosion - Finding a Better Way to Store Biofuel in Motor Vehicles***

S: Walter Reed Middle School
D: Los Angeles Unified School District
C: Sofio, Joyann

**J1913 Diaz Cabrera , Eduardo Gr: 7
Ramales Ponce, Dominic Gr: 7*****Toothy Spinners***

S: Magnolia Science Academy 6
D: Magnolia Science Academy
C: Kim, Sarah

**J1914 Enari, Skyler Gr: 7
Rivera, Mya Gr: 6*****Color Sorting Popsicle Robot***

S: Rudecinda Sepulveda Dodson Middle School
D: LAUSD-South
C: Sarmiento, Wilmer

J1915 Shepela, Emmerson Gr: 6***Maglev Trains***

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad

J1916 Hilu, Eitay Gr: 8***Does the Weight of a Toy Car Affect How Far and Fast it Goes Down a Ramp***

S: Lashon Academy
D: Los Angeles County Office of Education
C: Abelson, Jonathan

J1917 Heravi, Violet Gr: 6***The Volleyball Freefall***

S: Walter Reed Middle School
D: Los Angeles Unified School District
C: Sofio, Joyann



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division J20 • Plant Biology & Physiology - Jr

J2001 Chambliss, Olive Gr: 7***Plant and Light Project***

S: New West Charter
D: SBE - New West Charter
C: Burke, Eric

**J2002 Torres, Aiden Gr: 8
Ordonez, Maty Gr: 8*****How BPM Can Affect Lima Bean Plant Height***

S: Rudecinda Sepulveda Dodson Gifted Magnet School
D: LAUSD Los Angeles Unified School District
C: Aki, Teresa

J2003 Alameddine, Fatimah Gr: 7***The Benefit of the Basic: Comparative Analysis of Mineral Supplements and Chemical Fertilizer Impact on Plant Growth***

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena

J2004 Marks, Madelaine Gr: 7***Growing Beans, What is the Best Type of Water?***

S: Beverly Vista Middle School
D: Beverly Hills Unified School District
C: Langevin, Alyssa

J2005 Park, Sofie Gr: 6***Compost Concentration vs. Growth of Plants***

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad

J2006 Prasarttongosoth, Araceli Gr: 8***How Do Different Amounts of Coffee Affect the Growth of Cabbage Plants?***

S: Sierra Madre Middle School
D: Pasadena Unified School District
C: Dev Anandhan, Ravi

J2007 Zakaryan, Anahit Gr: 7***Strawberry DNA Extraction***

S: C & E Merdinian Armenian Evangelical School
D: 3
C: Aviki, Silva

J2008 Khatchadourian, Armen Gr: 6***Fruit DNA Extraction***

S: C & E Merdinian Armenian Evangelical School
D: 3
C: Aviki, Silva

**J2009 Mohindra, Shivani Gr: 7
Perez, Sophia Gr: 7*****How Do Eggshells Affect the Growth of Husky Cherry Red Tomatoes?***

S: Rudecinda Sepulveda Dodson Middle School
D: LAUSD-South
C: Sarmiento, Wilmer

J2010 Tatoussian, Matthew Gr: 8***The Effect of Growth Hormones on Plants***

S: Chamlian Armenian School
D: GUSD
C: Gevorkian, lida

J2011 De Silva, Natharie Gr: 6***The Effect of Greywater on The Growth Rate of Vigna radiata***

S: Rudecinda Sepulveda Dodson Middle School
D: LAUSD-South
C: Sarmiento, Wilmer

J2012 Namasivayam, Sandana Gr: 8***The Effects of Carbon Fertilization Recreated Domestically on the Phaseolus vulgaris Plant***

S: Miraleste Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J2013 Smith, Nia Gr: 7***Kaplan, Goldie Gr: 7******Zhang, Annabella Gr: 7******Fabulous Flowers***

S: New Roads Middle School
D: Santa Monica-Malibu Unified School District
C: Alikhan, Nishat

J2014 Greaney, Declan Gr: 6***Does Gravity Affect Plant Growth?***

S: Pomona Unified School District Junior Division
D: Pomona Unified School District
C: Gardea, Bridget

J2015 Roberts Richards, Cleopatra Gr: 6***Does Hydroponic Or Normal Plant Growth Work Best?***

S: Rudecinda Sepulveda Dodson Middle School
D: LAUSD-South
C: Sarmiento, Wilmer

J2016 Khemichian, Miro Gr: 7***Can Hydrogels Help Conserve Water In Farming***

S: Chamlian Armenian School
D: GUSD
C: Gevorkian, lida

J2017 Kutash, Paige Gr: 6***How Much is CO??? Much?***

S: Walter Reed Middle School
D: Los Angeles Unified School District
C: Sofio, Joyann

J2018 Townsley, Giana Gr: 6***Race of the Roots***

S: Magnolia Science Academy 6
D: Magnolia Science Academy
C: Kim, Sarah

J2019 Sama, Imani Gr: 6***Sweet or Salty Plants?***

S: St. Timothy
D: Archdiocese of Los Angeles
C: Novak, Christdy

J2020 Vignesh, Yuvanah Gr: 8***Effect of Water Temperature on Garden Plants***

S: Rosemont Middle School
D: Glendale Unified School District
C: Risse, Suzanne

J2021 Munoz, Abby Gr: 8***Hydroponics & pH***

S: Lashon Academy
D: Los Angeles County Office of Education
C: Abelson, Jonathan

J2022 Barroga, Jaida Gr: 6***Rapid Responses***

S: Pomona Unified School District Junior Division
D: Pomona Unified School District
C: Gardea, Bridget



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J20 • Plant Biology & Physiology - Jr

J2023 Ball, Olivia Gr: 7***Radioactive Radishes?***

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth

J2024 Park, Lauren Gr: 8***The Significance of Air-Pressure in Growing Plants***

S: Ridgecrest Intermediate School
D: Palos Verdes Unified School District
C: Hughes, Ashley

J2025 Elias, Eitan Gr: 7***Nature's Thermostat: Unmasking Temperature's Power Over Fruit Ripening***

S: Temple Beth Am Pressman Academy
D: 0
C: Forman, Sam

J2026 Lyon, Layla Gr: 6***Testing the Rate of Photosynthesis Using Different Household Ingredients***

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

J2027 Kaplan, Moses Gr: 8***Testing the Oxygen Produced by Photosynthesis of Cyanobacteria Under Simulations of Synthetic Environmental Issues***

S: Portola Highly Gifted Magnet
D: LAUSD (Northwest)
C: Gramajo, Ruth

J2028 Sayegh, Rimon Gr: 7***Snap to Survive***

S: St. Gregory A. & M. Hovsepian School
D: NA
C: Haroutiounian, Shakeh

J2029 Usman, Rehan Gr: 6***Which Type of Soil Will Help a Plant Grow Faster?***

S: Al-Huda Islamic School
D: Hawthorne/Private
C: Alshanableh, Rula

J2030 Dardashti, Suri Gr: 6**Rosenfeld, Audrey Gr: 6*****How to Store Strawberries***

S: Beverly Vista Middle School
D: Beverly Hills Unified School District
C: Langevin, Alyssa

J2031 Hanif, Ashar Gr: 6***Hydroponics v. Soil Growth***

S: New Horizon School, Pasadena
D: Private
C: Elick, Leonard

J2032 Gigliotti, Elizabeth Gr: 7***Algae v.s Acid Rain***

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad

J2033 Adamyan, Gregory Gr: 7***Hydroponics Vs. Soil***

S: Holy Martyrs Ferrahian Middle School
D: None
C: Balian Chahinian, Sanahine

J2034 Ter-Arsenyan, Karen Gr: 7***Experiment With Genetically Modified Seeds***

S: C & E Merdinian Armenian Evangelical School
D: 3
C: Aviki, Silva

J2035 Markarian, Michelle Gr: 6***Gardening Without Soil: Hydroponics***

S: C & E Merdinian Armenian Evangelical School
D: 3
C: Aviki, Silva

J2036 Skolnick, Sarah Gr: 7***Best Way to Wash Strawberries***

S: Lashon Academy
D: Los Angeles County Office of Education
C: Abelson, Jonathan



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division J22 • Product Science - Jr

J2201 O'Leary, Coral Gr: 7

The Best Paper Towel Brand Is...

S: New Roads Middle School
D: Santa Monica-Malibu Unified School District
C: Alikhan, Nishat

J2202 Aryan, Dana Gr: 8

Bacteria Blender

S: Al-Huda Islamic School
D: Hawthorne/Private
C: Alshanableh, Rula

J2203 Avitsian, Lark Gr: 7

Making Biofabrics From Algae

S: Chamlian Armenian School
D: GUSD
C: Gevorkian, lida

J2204 Brenes, Anaïd Gr: 8

Ice Cream Bliss

S: Lashon Academy
D: Los Angeles County Office of Education
C: Abelson, Jonathan

J2205 Le Blanc, Josephine Gr: 8**Akkaraju, Mia Gr: 8**

Don't Cry Over Spoiled Milk: The Study of Bacteria Growth in Organic Pasteurized Milk, Raw Milk, and Lactaid Milk After Their Expiration Date.

S: Archer School for Girls (Junior)
D: Private
C: Neshek, Jerilyn

J2206 Cabezas, Amelia Gr: 6**Prigmore, Gia Gr: 6****Chua, Kylie Gr: 6**

Hands Down This is the Best Moisturizer: Using Gelatin Skin Models to Test Moisturizer Effectiveness

S: Incarnation Parish School
D: Los Angeles
C: Anderson, Anna

J2207 Chue, Katelyn Gr: 8

How Does Homemade Bioplastic Compare to LDPE Plastic?

S: Hale Charter Academy STEAM Magnet
D: LAUSD
C: Ramirez, Joanne

J2208 Muro, Isabella Gr: 7

The Good and Bad of Toothpaste

S: Holy Angels School
D: Archdiocese of Los Angeles
C: Galvez, Araceli

J2209 Smith, Piper Gr: 7

Home Grown or Store Bought Which is Better?

S: Holy Angels School
D: Archdiocese of Los Angeles
C: Galvez, Araceli

J2210 Stern, Stella Gr: 8

Does Heat Protectant Help Protect Hair From Heat Damage?

S: Temple Beth Am Pressman Academy
D: 0
C: Forman, Sam

J2211 Miller, Alma Gr: 7**Stuppel, Adir Gr: 7**

What is the Most Effective Sunscreen?

S: Temple Beth Am Pressman Academy
D: 0
C: Forman, Sam

J2212 smallwood, Hans Gr: 7**Burch, Caiden Gr: 7**

Which Is the Better Baseball

S: Holy Angels School
D: Archdiocese of Los Angeles
C: Galvez, Araceli

J2213 Kim, Jaunyoung Gr: 6

Industrial Insulation Material vs. Eco-Friendly Insulation Material

S: St Martin of Tours School
D: Los Angeles
C: Ashas, Mohammad

J2214 Crane, Meredith Gr: 7

Longer Lifespan for Your Batteries

S: Holy Angels School
D: Archdiocese of Los Angeles
C: Galvez, Araceli

J2215 O'Neill, Liam Gr: 8**Cao, Alex Gr: 8****Chao, Edrian Gr: 8**

Analysis of Electrolyte Content in Liquid Beverages

J2216 Rangoonwala, Zain Gr: 6

Watch Out For AI: A Comparative Study of Human and AI-Generated Text

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena

J2217 Linsangan, Dylan Gr: 7

Popcorn's Perfect Popping Point

S: Ross Academy of Creative and Media Arts Middle School
D: ABC Unified School District
C: Espinoza, Oscar

J2218 Dy, Makaela Gr: 7

Solar Power or Electricity?

S: Holy Angels School
D: Archdiocese of Los Angeles
C: Galvez, Araceli

J2219 Ahmed, Maryam Gr: 8

The Quicker Picker Upper: Environmental Sustainability Analysis of Paper Towel Absorbency

S: Institute of Knowledge Middle School
D: Walnut
C: Khan, Selena

J2220 Bowman, Burgundy Gr: 6

Yo' Spoon

S: Mark Twain Middle School
D: LAUSD
C: Burman, Jenny

J2221 Acutt, Savannah Gr: 8**Carney, Carmen Gr: 8****Hexner, Posie Gr: 8**

Sunny Side Up: What Effect Do Different Spfs (30, 50, 75) Have on Preventing Yeast Colony Growth?

S: Archer School for Girls (Junior)
D: Private
C: Neshek, Jerilyn

J2222 Guerrero, Emily Gr: 8

Examining the Difference in Bacteria Found in Fast Food vs. A Mid-Tier Restaurant

S: Arroyo Seco Museum Science Magnet
D: LAUSD
C: Griffith, Laura



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Junior Division
J22 • Product Science - Jr

J2223 Lopez, Sofia Gr: 6

Pumping the Vibe With Lotion

S: Pomona Unified School District

Junior Division

D: Pomona Unified School District

C: Gardea, Bridget

J2224 Reyes, Emerald Gr: 8

Cookie Versus Chips. Which One of These Commonly Eaten Snacks Has the Most Fat in Them?

S: Arroyo Seco Museum Science

Magnet

D: LAUSD

C: Griffith, Laura

J2225 Arif, Hasan Gr: 6

Natural v. Man-Made Water Filters: A Matter of Life and Death

S: New Horizon School, Pasadena

D: Private

C: Elick, Leonard

J2226 rheinheimer, kate Gr: 8

Honarpour, Nika Gr: 7

Material vs. Matter

S: Archer School for Girls (Junior)

D: Private

C: Neshek, Jerilyn

J2227 Churukian, Vana Gr: 7

What Substance Purifies Water the Most

S: Chamlian Armenian School

D: GUSD

C: Gevorkian, Iida

J2228 Pacheco, Adelle Gr: 6

Can You Open It?

S: Magnolia Science Academy 6

D: Magnolia Science Academy

C: Kim, Sarah



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S01 • Animal Biology - Sr

S0101 So, Michelle Gr: 12

*A Biological Model for Chemical Defense and Self-Toxicity: Developing the Transgenic TRPA1-deficient *Dalotia coriaria**

S: Arcadia High School
D: Arcadia Unified School District
C: Munoz, Jorge

S0102 Martinez, Kate Gr: 9

The Comparative and Synergistic Effects of Curcumin and Omega 3 Fatty Acids on Neuronal Stem Cell Regeneration Using a Planaria Model.

S: North Hollywood High School
D: Los Angeles Unified
C: Deutsch, Christi

**S0103 Jung, Isaac Gr: 10
Smith, Penny Gr: 10
Huie, Pressley Gr: 10**

*The Effects of Artificial Sugar on *Aurelia aurita**

S: Flintridge Preparatory School
D: Independent
C: Frewen, Shane

S0104 Cho, Nahum Gr: 10

The Effect of Adding Folic Acid in the Diets of Moon Jelly

S: Cabrillo Marine Aquarium, City of Los Angeles Department of
D: LAUSD
C: Spies, Brenton

S0105 So, Olivia Gr: 11

*The Effect of Increased Niacin and NAD + Concentration on *Drosophila melanogaster* Longevity, Motor Function, and Memory*

S: Harvard-Westlake School – Senior Division
D: None
C: Cardin, Nate

S0106 McConnell, Paulina Gr: 11

The Hunger Games: Comparing the Dietary Preferences of Invasive and Native Bird Species in Pasadena

S: Pasadena High School
D: Pasadena Unified School District
C: Rupel, Dylan

**S0107 Kashif, Javeria Gr: 10
Motala, Muhammad Gr: 10**

*Adaptogens in Focus: Pharmacological Modulation of *Acheta domesticus* Neuronal Activity*

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

S0108 Mei, Rita Gr: 11

Effect of Transcranial Magnetic Stimulation on the Prefrontal Lobe Shown in Delayed-Nonmatch-to-Sample Performance

S: Diamond Bar High School
D: WVUSD
C: SORENSEN, ERIC

**S0109 Rangoonwala, Zubaida Gr: 10
Jamal, Zohare Gr: 10**

StereoSight Solutions: A Study on the Efficacy of Optical Devices on Patients with Stereopsis

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

S0110 Ganguly, Mohuli Gr: 12

Understanding the Impacts of Covid-19 Spike Proteins on Induced Pluripotent Stem Cell Derived Cardiomyocytes

S: La Salle College Preparatory
D: Pasadena
C: Parga, Elizabeth

S0111 Marek, Nicholas Gr: 11

*Testing the Effect of Biotin on the Chitin Content and Longevity of Ghost Shrimp, *Palaemon paludosus**

S: USC East College Prep
D: LAUSD
C: Satya-Mohandoss, Kavitha

**S0112 Hong, Austin Gr: 12
Gandakusuma, Giselle Gr: 11**

*In Vivo Study of the Effect of *E. coli* on *A. aurita**

S: Flintridge Preparatory School
D: Independent
C: Frewen, Shane



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S02 • Animal Physiology - Sr

S0201 Backer Peral, David Gr: 12

Hot Button: Non-invasive Approach for Studying Emotion States

S: La Canada High School
D: La Canada High School
C: Cartnal, Jim

S0202 Cheung, Wesley Gr: 9

Studying How Swell Sharks Behave Based on Socializing, Light Exposure, and Other Environmental Changes

S: Cabrillo Marine Aquarium, City of Los Angeles Department of
D: LAUSD
C: Spies, Brenton

S0203 patel, tej Gr: 11

A Novel Glucosinolate Derived Compound in Promoting Oligodendrocyte Differentiation

S: North Hollywood High School
D: Los Angeles Unified
C: Deutsch, Christi

S0204 DeMerit, Hannah Gr: 11

Alteration of the Intracellular Trafficking in Alzheimer's Disease by Apolipoprotein E

S: Flintridge Preparatory School
D: Independent
C: Frewen, Shane

S0205 Junaid, Muhammad Gr: 10

Salman, Usman Gr: 10

Neural Overdrive: Examining the Neurostimulatory Effects of Caffeine and Sugar Solutions in Crickets (Acheta domesticus)

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

S0206 Ong, Petrina Gr: 12

Effect of Triptolide on Planarian Flatworm Regeneration

S: The Webb Schools
D: Claremont Unified
C: Martin, Joseph

S0207 Chen, Chloe Gr: 10

The Power of Music as a Treatment for Neurodegenerative Diseases: Which Sinusoidal Frequencies Impact Nematodes with Dementia?

S: Brentwood School
D: Independent/Private
C: Fukuji, Darlene

S0208 Heur, Matthew Gr: 10

Reduced Parietal Delta and Theta Event Related Oscillations in Alcoholics during Early Visual Processing

S: La Canada High School
D: La Canada High School
C: Cartnal, Jim

**S0209 Tseng, Kaili Gr: 10
Gheysar, Leila Gr: 10**

Regenerative Reaction of Dugesia to Electrical Stimulation as Proxies for Human Medicine

S: Palos Verdes Peninsula High School
D: PVPUSD
C: Greenberg, Mark

S0210 Kim, Caris Gr: 11

Testing the Effects of MSG on Planaria

S: Crescenta Valley High School
D: Glendale Unified School District
C: Tuason, Orenda



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division S03 • Behavioral/Social Sciences - Sr

S0301 Hernandez, Emily Gr: 12

Shining a Light on Epilepsy: How Different Frequencies of Light Can Exacerbate Seizures in Bang-Sensitive Drosophila melanogaster

S: Archer School for Girls (Senior)
D: Private
C: Neshek, Jerilyn

S0302 Matossian, Adrienne Gr: 12

Relationship Between Depression Scores and Social Media Usage in Teenagers

S: La Salle College Preparatory
D: Pasadena
C: Parga, Elizabeth

S0303 Galvez, Arianna Gr: 11

"Does Color Affect Taste?"

S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

S0304 Pogosian, Ani Gr: 9

Pavlov's Dog

S: Holy Martyrs Ferrahian High School
D: Private in LA
C: Chahinian, Sanahine

S0305 Campos-Cabrera, Braulio Gr: 10

How Does Music Effect Academic Performance?

S: Pioneer High School
D: Whittier Union High School District
C: Murray, Matthew

**S0306 Rios, Christian Gr: 11
Martin, Briana Gr: 11**

How Does Mirrored Imagery Affect a Persons Proprioception?

S: Pioneer High School
D: Whittier Union High School District
C: Murray, Matthew

**S0307 Barba, Isaac Gr: 11
Acuna, Diego Gr: 11**

How Do People With Different Fitness Levels Respond to Exercise

S: Don Bosco Technical Institute
D: Archdiocese of Los Angeles
C: Jenkins, Joma

**S0308 Gu, Eric Gr: 10
Friedman, Jolie Gr: 10**

Telebot

S: Brentwood School
D: Independent/Private
C: Fukuji, Darlene

S0309 Silva, Joshua Gr: 12

Aberrant Grey Matter in Murderers

S: Morningside High School
D: Inglewood Unified School District
C: La Rouche, Maureen

S0310 Banuelos, Amanda Gr: 11

Music Memory

S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

**S0311 Garabedian, Carla Gr: 9
Aprahamian, Lea Gr: 9**

How Music Affects Heart Rate

S: Holy Martyrs Ferrahian High School
D: Private in LA
C: Chahinian, Sanahine

S0312 Zeng, Ziyu (Maria) Gr: 9

Are Males and Females the Same In Terms of Sexual Jealousy?

S: Walnut High School
D: Walnut Valley Unified
C: Lim, Garrett

S0313 Baha, Adam Gr: 10

The Nature of Human Willpower: Examining Lay Theories of Self-Control and Their Impact on Ego Depletion

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

S0314 Kim, Irene Gr: 11

Analysis of the Addictive Potential of Piper methysticum Through Model Organism Drosophila melanogaster

S: Crescenta Valley High School
D: Glendale Unified School District
C: Tuason, Orenda

S0315 Iwata, Kanon Gr: 10

Effects of Nuclear Weapon Education for High School Students

S: Westridge School for Girls
D: Independent
C: Perahya, Daniel

S0316 Huang, Kay Gr: 10

Explaining Opinion Dynamics in Online Social Media: A Comparison of Attitudes to Climate Change Across States of the United States

S: San Marino High School
D: San Marino Unified
C: Leong, Ann

S0317 Wen, Lena Gr: 11

Evaluation of Pre-Surgical Bariatric Candidates Using a Psychometric Measure to Identify Appropriate Candidacy

S: Palos Verdes Peninsula High School
D: PVPUSD
C: Greenberg, Mark

S0318 Aswani, Mishka Gr: 10

Impact of Playing a Musical Instrument on Children

S: Brentwood School
D: Independent/Private
C: Fukuji, Darlene

S0319 Azzawi, Omar Gr: 10

Framing Opinions: The Power of Words in Changing Perspective

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

S0320 Atkinson, Oliver Gr: 11

Liu, Jerry Gr: 11

Solomon, Joel Gr: 11

Effects of Providing Training on Opioid Overdose and Naloxone Use to Adolescents

S: La Salle College Preparatory
D: Pasadena
C: Parga, Elizabeth

S0321 Lee, Hannah Gr: 11

How Psychological Conditions Shape Moral Expressions: Analyzing Journalistic Writing to Prevent and Treat Patients with Suicidal Intent

S: West Ranch HS
D: William S. Hart UHSD
C: Hughes, William

S0322 Thyen, Lana Gr: 11

AI-Powered Communication Device

S: Granada Hills Charter High School
D: Granada Hills Charter.
C: Shah, Tripti



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S03 • Behavioral/Social Sciences - Sr

S0323 Yoon, Ashton Gr: 11

The Shortage of Access to Therapists in Cambridge, Massachusetts in the United States: A Pandemic Study

S: Chadwick School
D: Palos Verdes
C: Figueroa, Dijanna

**S0324 Babahakian, Aleek Gr: 9
Zograban, Zoe Gr: 9**

Does Sugar Consumption Affect Cognitive Functions

S: Rose and Alex Pilibos Armenian High School
D: private
C: Mishler, Jacque

**S0325 Gullon, Gianna Gr: 11
Aldoroty, Avery Gr: 11**

Not Sponsored: Exploring Effects of Parasocial Interaction With Branded Content

S: Pasadena High School
D: Pasadena Unified School District
C: Rupel, Dylan

S0326 Wu, Angelina Gr: 11

Exploring the Effects of Social Media Usage on Depression

S: Diamond Bar High School
D: WVUSD
C: SORENSEN, ERIC

S0327 Patel, Jay Gr: 11

Evaluating the Effectiveness of the Counseling Services

S: Calabasas High School
D: Las Virgenes Unified School District
C: Boelman, Bradley

S0328 Savage, Lily Gr: 10

Movies to Brains: Finding Synchronization Between Brains When Watching Movie Clips

S: Archer School for Girls (Senior)
D: Private
C: Neshek, Jerilyn

S0329 Cheng, Lauren Gr: 10

Born to be Hyper? The Genetic Influence on ADHD

S: Diamond Bar High School
D: WVUSD
C: SORENSEN, ERIC

S0330 Joo, Noelani Gr: 11

Advancing the Science of Recruitment in Clinical Research Studies: Focus on AANHPI Youth

S: Crescenta Valley High School
D: Glendale Unified School District
C: Tuason, Orenda

**S0331 Tanada, Riley Gr: 11
Vo, Jaedon Gr: 11
Guerrero, Seth Gr: 11**

Exploring the Impact of Blue Light Exposure From Devices on Sleep Variables

S: Don Bosco Technical Institute
D: Archdiocese of Los Angeles
C: Jenkins, Joma

S0332 Capatori-Poole, Sasha Gr: 10

Dissecting the Dissection: A Ribbiting Comparison Between Preserved vs. Synthetic Frog Dissections

S: Archer School for Girls (Senior)
D: Private
C: Neshek, Jerilyn

**S0333 Chen, Zimo Gr: 11
Wang, Jingming Gr: 10
Kung, Evelyn Gr: 11**

Unraveling the Genetic and Environmental Threads: Mapping the Pathways to Depression and Suicidal Ideation

S: Walnut High School
D: Walnut Valley Unified
C: Lim, Garrett

S0334 Liang, Kimberly Gr: 11

Genetic vs. Environmental Influence on Personality Traits

S: Diamond Bar High School
D: WVUSD
C: SORENSEN, ERIC

S0335 Wang, Xinke Gr: 10

Neat Schools

S: Chadwick School
D: Palos Verdes
C: Figueroa, Dijanna



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division S04 • Biochemistry & Molecular Biology - Sr

S0401 Huang, Andrew Gr: 10

Self-assembling Chimeric Polypeptides as Drug Carrying Nanoparticles for Anti-cancer Chemotherapy

S: The Webb Schools
D: Claremont Unified
C: Martin, Joseph

**S0402 Peresztegi, Lena Gr: 10
Peti-Peterdi, Anna Gr: 12**

Development and Applications of a Novel High Throughput Screening Assay to Identify a New First-In-Class Therapy for Kidney Disease

S: Palos Verdes High School
D: Palos Verdes Unified School District
C: Munoz, Julie

**S0403 Tiruvellore, Vinayan Gr: 9
Korrapati, Gautham Gr: 9**

From Bytes to Breaths: Battling Pulmonary Fibrosis With Machine Learning

S: Academy of the Canyons Middle College High School
D: William S. Hart Union High School District
C: Koegle, Mike

S0404 Simpson, Ava Gr: 12

"Optimizing CollOvine™-MA: Determining the Efficiency of the Collagen Methacrylation Reaction via the Fluorescamine Assay

S0405 Cheng, Liwen Gr: 10

Click Chemistry-Mediated Enrichment of Circulating Tumor Cells for Noninvasive Detection of Differentiated Thyroid Cancer

S: Harvard-Westlake School – Senior Division
D: None
C: Cardin, Nate

S0406 Solares, Lucas Gr: 10

Korah, Joel Gr: 10

Pasha, Shoaib Gr: 10

Dissecting Digestive Efficacy in GMO and Non-GMO Crops Through Enzymatic and Phytochemical Analysis

S: Chatsworth Charter High School & G+STEAM HS
D: Los Angeles Unified School District
C: Tashjian, Sareen

S0407 Douglas, Stephen Gr: 10

How Does Temperature Affect Your Taste Buds?

S: City Honors International Preparatory School
D: Inglewood Unified School District
C: Swaray, James

S0408 Lemus, Maria Gr: 10

CRISPR Experiment

S: Pioneer High School
D: Whittier Union High School District
C: Murray, Matthew

**S0409 Khayalian, Talar Gr: 9
Davtyan, Vanna Gr: 9**

A Functioning Lung

S: Rose and Alex Pilibos Armenian High School
D: private
C: Mishler, Jacques

S0410 Corry, William Gr: 12

CD38 Identifies a Subset of Natural Killer Cells With Differential Phenotype and Function

S: Palos Verdes High School
D: Palos Verdes Unified School District
C: Munoz, Julie

S0411 Tsai, Caleb Gr: 11

A Meta-Analysis of Genes Associated with Myasthenia Gravis

S: El Segundo High School
D: El Segundo Unified School District
C: DeLong, Megan

S0412 Handke, Loc Gr: 11

Designing Novel Binders for LAG3 Receptors on T-Cells for Cancer Immunotherapy

S: IEA Institute for Educational Advancement
D: Pasadena USD
C: Barsever, Monica

S0413 Osipyan, Lia Gr: 12

A Novel Protein Post-translational Modification Inhibitor as a Potential Therapeutic Target for Lung Carcinoma

S: Palos Verdes Peninsula High School
D: PVPUSD
C: Greenberg, Mark

S0414 Karakachian, Zia Gr: 10

Akopyan, Sofia Gr: 10

Sippin' on Sugar

S: Holy Martyrs Ferrahian High School
D: Private in LA
C: Chahinian, Sanahine

S0415 Rivera, Camila Gr: 10

Sanabria, Leslie Gr: 10

Blood Scene

S: Magnolia Science Academy 4 (Senior Division))
D: Los Angeles Unified School District
C: Marten, Christopher

S0416 Ali, Mir Saif Gr: 10

Parekh, Emad Gr: 10

Silent Signals: A Quantitative Structure-Activity Relationship Analysis (QSAR) of Endocrine-Disrupting Chemicals in Consumer Items

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

S0417 Jones, Zachary Gr: 12

Recombinant Synthesis of Hyaluronidase With Modified IgE Binding Site for the Purpose of Reduced Allergenicity

S: Hart High School
D: William S. Hart Union High School District
C: Jones, Jenni

S0418 Dokko, Claire Gr: 12

Developing Tools to Study the Function of ACTN3 in Muscle Stem Cells and Their Differentiated Derivatives

S: Palos Verdes Peninsula High School
D: PVPUSD
C: Greenberg, Mark

S0419 Noh, Hyunjoon Gr: 10

Yang, Barron Gr: 11

Breaking the Mold: The Promise of Plant Based Plastic in a Sustainable Future

S: Gretchen Whitney High School
D: ABC Unified School District
C: Song, Nitta



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S05 • Chemistry - Sr

S0501 Ktrdzhyan, Knarik Gr: 10

Creating a Gel Electrophoresis Chamber

S: Rose and Alex Pilibos Armenian High School
D: private
C: Mishler, Jacque

S0502 Padilla, Delilah Gr: 10

The Battle of the Cleansers

S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

S0503 Papazian, Anthony Gr: 10

Electrolyte Challenge

S: Holy Martyrs Ferrahian High School
D: Private in LA
C: Chahinian, Sanahine

**S0504 Vasquez, Dominique Gr: 11
Robles, Logan Gr: 11**

Cookie Chaos!

S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

S0505 Tang, Candice Gr: 10

Chloride's Effect on the Water Absorption Ability of Microcrystalline Cellulose Based Hydrogel

S: The Webb Schools
D: Claremont Unified
C: Martin, Joseph

S0506 Ting, Jeremy Gr: 10

Are Electrolyte Powders Worth the Hype?

S: Mira Costa High School
D: MBUSD
C: Nodado, Ernesto

S0507 Franklin, Jenna Gr: 11

Decomposing Eggs-periment

S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

S0508 Nazarian, Jonah Gr: 11

Advancing Energy Storage: Sustainable Moldable Batteries with PVA and Rechargeable Copper Zinc Cells

S: Brentwood School
D: Independent/Private
C: Fukuji, Darlene

S0509 Kang, Sehoon Gr: 12

Density Functional Theory-Assisted Discovery and Hierarchical Porosity Synthesis of Cobalt Single Atom Catalyst for Oxygen Reduction Reaction

S: The Webb Schools
D: Claremont Unified
C: Martin, Joseph

**S0510 Kruger, Karina Gr: 11
Zhang, Sarah Gr: 11**

Harvesting Hope: Innovations in Food Preservation for Famine Resilience

S: Beverly Hills High School
D: Beverly Hills Unified School District
C: Sherman, Michael

**S0511 Zamacona, Xiomara Gr: 11
ortegon, victoria Gr: 11
Ramirez, Jordan Gr: 11**

Which Hair Kind Absorbs Oil Out of Water the Best?

S: Pioneer High School
D: Whittier Union High School District
C: Murray, Matthew

S0512 Maldonado, Nancy Gr: 12

Can Liquids Cause Tooth Decay?

S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

**S0513 Ruiz, Ariana Gr: 10
Contreras, Marcel Gr: 10**

No More Dead Zones!!

S: Pioneer High School
D: Whittier Union High School District
C: Murray, Matthew

**S0514 Jamkosian, Nayira Gr: 9
Samarghachian, Milan Gr: 9
Harutunian, Danielle Gr: 9**

Luminol

S: Holy Martyrs Ferrahian High School
D: Private in LA
C: Chahinian, Sanahine

**S0515 Smith, Kira Gr: 10
Yesayan, Anahit Gr: 10**

Study of Kinetics of a Reaction

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

**S0516 Ezadjian, Natelle Gr: 10
Sarkisyan, Emma Gr: 10**

Sip or Skip

S: Holy Martyrs Ferrahian High School
D: Private in LA
C: Chahinian, Sanahine

**S0517 Melgar, Dalila Gr: 10
Zhang, Harry Gr: 9**

Vapor Pressure and Enthalpy of Vaporization of Water

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

S0518 Molina, Kimberly Gr: 12

The Secret to Flowers Long Life

S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

S0519 Gao, Ruotong Gr: 10

Novel Stretchable Laser-Induced Graphene Elastomeric Sensor Array for Human Stress Monitoring Through a Portable Novel Electrochemical Testing Device

S: The Webb Schools
D: Claremont Unified
C: Martin, Joseph

S0520 Barbre, Brandon Gr: 10

Research Topic: Electrolytes and Exercise Experimental Topic: Electrolyte Challenge: Orange Juice Vs. Sports Drink

S: Morningside High School
D: Inglewood Unified School District
C: La Rouché, Maureen

**S0521 Balcom, Joey Gr: 11
Sung, Ethan Gr: 11
Yoshihara, Akira Gr: 11**

Analyzing the Effects of Reductive Dehalogenase Homologous Protein A6 on Perfluorooctanesulfonic Acid

S: Palos Verdes High School
D: Palos Verdes Unified School District
C: Munoz, Julie

S0522 Zhang, Zhehao Gr: 12

Effort Towards the Total Synthesis of Crotonoscarin K: A Fragment Coupling Approach

S: The Webb Schools
D: Claremont Unified
C: Martin, Joseph



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S05 • Chemistry - Sr

S0523 Martinez Paz, Renata Gr: 10

Contreras, Alllison Gr: 10

Speeding Up Electrolysis

S: Pomona Unified School District

Senior Division

D: Pomona Unified School District

C: Gardea, Bridget



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S06 • Earth / Space Sciences - Sr

S0601 Aliuddin, Khadijah Gr: 9

Out Among the Stars: Exploring the Alien World

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

S0602 Tsuboi, Angelina Gr: 12

Optical Encryption for Secure Data Transmission in Small Satellites Using Laser Communication

S: Chadwick School
D: Palos Verdes
C: Figueroa, Dijanna

S0603 Yang, Qingcheng Gr: 10

Measuring Earth's Characteristics With a Ruler

S: Sequoyah School
D: 5
C: Alongi, Marc

S0604 Hwang, Colin Gr: 11

The Factors That Affect Solar Energy Production

S: La Canada High School
D: La Canada High School
C: Carnal, Jim

S0605 Simon, Haley Gr: 9

No Glo: Radiation Protective Garments

S: Brentwood School
D: Independent/Private
C: Fukuji, Darlene

S0606 Sheshadri, Mallika Gr: 11

Simulating Lyman Alpha Radiation: Insights Into Cosmic Dawn

S: Pasadena High School
D: Pasadena Unified School District
C: Rupel, Dylan

S0607 Han, Annie Gr: 10

Feasibility Study of Transforming Half Dead Sea to a Freshwater Lake by Linking Nile River and Building a Free City at Four Country Intersection

S: Valencia High School
D: William S. Hart Union High School District
C: Han, Nanlin

S0608 Agrawal, Vanya Gr: 12

Celestial Symphony: MIDI Sonification of Multiparametric Supernova Data Into a Euphonious Composition

S: Palos Verdes High School
D: Palos Verdes Unified School District
C: Munoz, Julie

S0609 Wang, Yuping Gr: 12

Wong, Matthew Gr: 11

Determining the Shear-Wave Velocity of Southern Los Angeles

S: Mark Keppel High School
D: Alhambra Unified
C: Hernandez-Alvarado, Jose



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S07 • Ecology - Sr

S0701 Liu, Katelyn Gr: 9

Correlation Between Pyrodiversity Metrics and Biodiversity: Fire Could Promote Biodiversity

S: Flintridge Preparatory School
D: Independent
C: Frewen, Shane

S0702 Arjomand, Lily Gr: 11

Ant's Capability to Sequester Carbon Dioxide to Increase CO2 Removal in the Environment

S: Brentwood School
D: Independent/Private
C: Fukuji, Darlene

S0703 Choi, Matthew Gr: 10

The Effects of Varying Environments on Microplastic Abundance and Diversity in Plankton Samples.

S: Cabrillo Marine Aquarium, City of Los Angeles Department of
D: LAUSD
C: Spies, Brenton

S0704 White, Josette Gr: 10

Light It Up: The Effect of Fluorescent Thermoset Amino-Formaldehyde Polymers (~5µm) on the Behavior of Planarian Flatworms

S: Archer School for Girls (Senior)
D: Private
C: Neshek, Jerilyn

S0705 Roberts, Skylar Gr: 10

Coral's Lost Photosynthesizers: The Effect of Oxybenzone on Coral Bleaching

S: Archer School for Girls (Senior)
D: Private
C: Neshek, Jerilyn

S0706 Espinoza, Brandon Gr: 11

How Morning Glories Affect Local Invertebrate Biodiversity

S: North Hollywood High School
D: Los Angeles Unified
C: Deutsch, Christi

S0707 Segal, Lea Gr: 10

Analysis of the Effectiveness of the Salinas de San Pedro Salt Marsh to Purify Polluted Water of Los Angeles/Long Beach Harbor

S: Palos Verdes Peninsula High School
D: PVPUSD
C: Greenberg, Mark

S0708 Kumar, Aditya Gr: 9

Priceless Purity: An Analysis of Endotoxin Levels of Waters at Various Price Points

S: Don Bosco Technical Institute
D: Archdiocese of Los Angeles
C: Jenkins, Joma

S0709 Liu, Annie Gr: 11

Comparative Study of the Effects of Plant-derived and Synthetic Detergents on the Germination and Initial Growth of Mung Bean

S: La Salle College Preparatory
D: Pasadena
C: Parga, Elizabeth



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division S08 • Engineering Applications - Sr

S0801 Singh, Ansh Gr: 11
Lacabe, Jonathan Gr: 10
"Gears Aligned", Evaluating the Optimal Robot Design and Software
S: Chatsworth Charter High School & G+STEAM HS
D: Los Angeles Unified School District
C: Tashjian, Sareen

S0802 Jimenez, Emily Gr: 10
Building a Portable Pressurized Water Tank
S: Pomona Unified School District Senior Division
D: Pomona Unified School District
C: Gardea, Bridget

S0803 Shen, Gilbert Gr: 11
Lin, Alex Gr: 10
Song, Harris Gr: 12
EcoSpector: A Novel Scout Drone for Cave Exploration
S: Walnut High School
D: Walnut Valley Unified
C: Lim, Garrett

S0804 Galante, James Gr: 12
Sanchez, Nev Gr: 12
Campos, Joshua Gr: 12
Using an Endothermic Reaction to Quickly Combat Hyperthermia
S: Sylmar Biotech Health and Engineering Magnet
D: Los Angeles Unified School District
C: Dacono, Mercia

S0805 Sun, Xiangzhou Gr: 11
GazelinK: A Low-Cost Mobile Eye-Gesture Communication System With Large Language Models for People With Amyotrophic Lateral Sclerosis
S: The Webb Schools
D: Claremont Unified
C: Martin, Joseph

S0806 Jiang, Dylan Gr: 11
Sachmanyman, David Gr: 11
Affordable BCI-controlled Prosthetic
S: La Salle College Preparatory
D: Pasadena
C: Parga, Elizabeth

S0807 Hamkins, Easan Gr: 11
Exploring BOD Estimation via Electroactive Biofilms
S: Crescenta Valley High School
D: Glendale Unified School District
C: Tuason, Orenda

S0808 Glass Romo, Yareli Gr: 10
Jimenez, Amina Gr: 10
Jarrett, Clifford Gr: 10
Smoke Bomb
S: Inglewood High School
D: Inglewood Unified School District
C: Arong, Luke Rey

S0809 Hernandez Marquez, Elison Gr: 11
Water Distillation
S: Morningside High School
D: Inglewood Unified School District
C: La Rouche, Maureen

S0810 Villegas, Mileva Gr: 10
Padilla, Leilanni Gr: 10
Water Distillation Without Using Fuel or Electricity
S: Inglewood High School
D: Inglewood Unified School District
C: Arong, Luke Rey

S0811 Kruger, Donovan Gr: 9
Farnad, Nima Gr: 9
Marmo, Daniel Gr: 9
Heat for Accuracy: Designing & Testing a Heated Blood Pressure Cuff for More Accurate Results
S: Beverly Hills High School
D: Beverly Hills Unified School District
C: Sherman, Michael

S0812 Lin, Hao Gr: 9
Intelligent Fire Risk Detection System
S: Mira Costa High School
D: MBUSD
C: Nodado, Ernesto

S0813 Zhu, Zirui (Julie) Gr: 11
High-Flexibility Ankle Exoskeleton for Hemiplegic Patients Integrating Assistive and Walking Rehabilitation Functionality
S: The Webb Schools
D: Claremont Unified
C: Martin, Joseph

S0814 Herrera, Julian Gr: 10
Cabrera, Alyssa Gr: 10
Isaza, Noah Gr: 10
Thermal Gloves
S: Sylmar Biotech Health and Engineering Magnet
D: Los Angeles Unified School District
C: Dacono, Mercia

S0815 Xu, Brian Gr: 11
Baseball Hitting Simulator
S: Flintridge Preparatory School
D: Independent
C: Frewen, Shane

S0816 Xu, John Gr: 11
Zeng, Ziqi Gr: 11
2nd Vision
S: Harvard-Westlake School – Senior Division
D: None
C: Cardin, Nate

S0817 Gutierrez, Yitzel Gr: 11
Automatic Lock
S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

S0818 Valencia, Andrea Gr: 12
Rubio, Emily Gr: 12
Projectile Motion
S: Inglewood High School
D: Inglewood Unified School District
C: Arong, Luke Rey

S0819 Kim, Alvin Gr: 11
Peltier Modules: A Promising Technology for Cooling Systems
S: Gretchen Whitney High School
D: ABC Unified School District
C: Song, Nitta

S0820 Gambin, Madison Gr: 11
Bioinspired, Micro-structured and Hydrophobic Surfaces for Blood-Repellent Medical Implants
S: Palos Verdes Peninsula High School
D: PVPUSD
C: Greenberg, Mark

S0821 Valdepena, Roman Gr: 11
Wu, Colin Gr: 11
Munoz, Daniel Gr: 11
Development of a Pocket-Sized DIY Solar Panel iPhone Charger for Sustainable Portable Electronics Charging
S: Don Bosco Technical Institute
D: Archdiocese of Los Angeles
C: Jenkins, Joma



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S08 • Engineering Applications - Sr

S0822 Rodriguez, Andrew Gr: 12
Villanueva, Briana Gr: 12

Balloon Powered Car

S: Inglewood High School
D: Inglewood Unified School District
C: Arong, Luke Rey

S0823 Garcia, Emmanuel Gr: 11

DIY Rubber Band Powered Toy Car

S: Inglewood High School
D: Inglewood Unified School District
C: Arong, Luke Rey

S0824 Sriram, Athreya Gr: 11

*Data Signal Compression With
Polynomial Interpolation*

S: Gretchen Whitney High School
D: ABC Unified School District
C: Song, Nitta

S0825 Zheng, Newton Gr: 9

Hexapod Search and Rescue Robot

S: Chadwick School
D: Palos Verdes
C: Figueroa, Dijanna

S0826 Lee, Rachel Gr: 11

*Enhancing Sustainability and
Performance of Building Materials:
Developing Water-Resistant Hemp-
Based Concrete Bound by Magnesium
Oxychloride Cement*

S: Crescenta Valley High School
D: Glendale Unified School District
C: Tuason, Orenda

S0827 Kosove, Spencer Gr: 11

*Determining Systems of Efficient
Desalination*

S: Brentwood School
D: Independent/Private
C: Fukuji, Darlene

S0828 Hernandez, Yaretzi Gr: 11

Hydraulic Systems

S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

S0829 Castro, Juan Gr: 10

*How to Design and Build an
Umbrellatron, a Solar Powered Fan
Umbrella Hat.*

S: Pioneer High School
D: Whittier Union High School District
C: Murray, Matthew

S0830 Lee, Ryan Gr: 10

*Modeling the Atlantic Maritime Trade
With Physarum polycephalum Slime
Molds.*

S: Science Academy STEM Magnet
(Senior Division)
D: LAUSD
C: Fontilea, Kristin

S0831 Ge, Yujun Gr: 10

*Ace Your Game: AI-Driven Tennis
Coaching*

S: Cerritos High School
D: ABC Unified School District
C: Mai, Hoang



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division S09 • Engineering Research - Sr

S0901 Park, Aiden Gr: 11

The Analysis of Particulates in Commercial Bottled Water

S: North Hollywood High School
D: Los Angeles Unified
C: Deutsch, Christi

S0902 Yu, Allison Gr: 10

Finding an Alternative to Harmful Household Cleaning Solutions

S: National Youth Community Center (Senior)
D: 2
C: Kim, Wonjong

S0903 Xie, Christine Gr: 12

Optimizing a High Throughput Screen for Testing Therapeutics in a Novel Mouse Model of Ataxia Telangiectasia

S: Palos Verdes High School
D: Palos Verdes Unified School District
C: Munoz, Julie

S0904 Mkrtchyan, Erik Gr: 12

Diapole Antenna

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

S0905 Ghazarian, Edward Gr: 9

Robotic Arm

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

S0906 Ghazarian, Avedis Gr: 9

Firebot

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

S0907 Valdez, Gaston Gr: 11

Rojas, Kevin Gr: 11

Camarillo, Joshua Gr: 11

Degradation Fixation (A Project Used to Cut the Degradation Process in Half Without the Use of Plastic)

S: Don Bosco Technical Institute
D: Archdiocese of Los Angeles
C: Jenkins, Joma

S0908 Jones, Joseph Gr: 11

Orellana, Giselle Gr: 11

Mendoza, Leah Gr: 11

Carbon Fiber Vs Kevlar

S: Palmdale High School
D: Antelope Valley Union High School District
C: Curzi, William

S0909 Kwon, Aiden Gr: 10

Bio-Inspired Wing Design, Aerodynamic Simulation, and Autonomous Flight Test for Airborne Wind Energy

S: Palos Verdes Peninsula High School
D: PVPUSD
C: Greenberg, Mark

S0910 Jordan, Imani Gr: 10

Johnson, Johnae' Gr: 10

Grenade

S: Inglewood High School
D: Inglewood Unified School District
C: Arong, Luke Rey

S0911 Gross, Madeline Gr: 12

Wearable Monitor to Analyze Energy Transfer of Pole Vaulting

S: New West Charter High School
D: Los Angeles County
C: Thompson, Sarah

S0912 Anand, Anish Gr: 10

A Novel System for Long-Range Wireless Power Transmission

S: Palos Verdes Peninsula High School
D: PVPUSD
C: Greenberg, Mark

S0913 Han, Haley Gr: 9

Chen, Timothy Gr: 9

Zhang, Carol Gr: 12

O.A.S.I.S. (Ocean Aquatic Submarine Intelligence Solution)

S: Temple City High School
D: Temple City Unified
C: Martinez, Jeannie

S0914 Kang, Jordan Gr: 10

Impact of Non-Biodegradable Packaging Materials on the Marine Environment

S: National Youth Community Center (Senior)
D: 2
C: Kim, Wonjong

S0915 Lim, Brandon Gr: 10

Recycling PETG Single-Use Plastic Bottles Into Fabrication Ready Forms. (Ex. 3D Printing Spools of Filament, Injection Molding Beads.

S: Walnut High School
D: Walnut Valley Unified
C: Lim, Garrett

S0916 Hashmi, Syed Shaheer Gr: 9

PiezoElectric Power: Assessing Piezoelectric and PZT Performance in Power Generation

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

S0917 Demetriades, Theodore Gr: 11

NanoMax: Pioneering a New Age of Ultra-Lightweight, High-Strength Materials and Their Multifaceted Applications

S: Kairos Prep Academy
D: 3
C: Park, David

S0918 Lu, Simone Gr: 11

A Random Finite Element Model for Simulation of the Ruttings of Cold Region Pavements

S: Excelsior School
D: 5
C: Lee, Timothy

S0919 Petrosyan, First: Valeri Gr: 9

The Simulation and Use of Reinforcement Learning AI for Path Generation of Target-Seeking Munition

S: Science Academy STEM Magnet (Senior Division)
D: LAUSD
C: Fontilea, Kristin

S0920 Duan, Chrystal Gr: 12

An Ultra-Stretchable Self-Powered Wearable Magnetoelastic Pressure Sensor

S: Harvard-Westlake School – Senior Division
D: None
C: Cardin, Nate



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division S10 • Environmental Management - Sr

S1001 Sohn, Ellie Gr: 11

Aurelia aurita Mucus's Percent Uptake of Polyethylene, How Oceans Could Be Cleaned

S: Flintridge Preparatory School
D: Independent
C: Frewen, Shane

S1002 Rappoport, Gray Gr: 11

Creating An Optimal Oxyhydrogen Generator Through Beneficial Variable Changes

S: Palos Verdes High School
D: Palos Verdes Unified School District
C: Munoz, Julie

S1003 Lee, Chloe Gr: 11

Forecasting by Regression of the Ripple Effect of Vape on Our Environment and Public Health

S: National Youth Community Center (Senior)
D: 2
C: Kim, Wonjong

S1004 North, Kate Gr: 11

Bio-Based Skate Wheels: The Biodegradability and Durability of Starch-Based Polyols as Compared to Petroleum-Based Wheels

S: Palos Verdes High School
D: Palos Verdes Unified School District
C: Munoz, Julie

S1005 Gonzalez, Anabelle Gr: 10

Fuel Cell Windmill vs. Battery Operated Windmill

S: Pomona Unified School District Senior Division
D: Pomona Unified School District
C: Gardea, Bridget

S1006 Medhasi, Samaragye Gr: 11

Replacing CaCO₃ in Stone Paper with Eggshells

S: Gretchen Whitney High School
D: ABC Unified School District
C: Song, Nitta

**S1007 Alvizo, Brian Alexis Gr: 9
Banuelos, Dulce Gr: 11**

How Does Plastic Affect Germination?

S: Pomona Unified School District Senior Division
D: Pomona Unified School District
C: Gardea, Bridget

S1008 Ruedas, Carlos Gr: 11

Luna, Grace Gr: 12

How Do Plants Help With Climate Change

S: Pioneer High School
D: Whittier Union High School District
C: Murray, Matthew

S1009 Thomas, Katia Gr: 9

Mission Decomposition: Building a Microbial Fuel Cell for Landfill Composting

S: Archer School for Girls (Senior)
D: Private
C: Neshek, Jerilyn

S1010 Jang, Andrew Gr: 10

The Impact of Climate Change on the Occurrence of Harmful Algae Blooms in California

S: National Youth Community Center (Senior)
D: 2
C: Kim, Wonjong

S1011 Ito, Ruka Gr: 10

Sustainable Latex Extraction From Taraxacum officinale

S: Palos Verdes High School
D: Palos Verdes Unified School District
C: Munoz, Julie

S1012 Cho, Inu Gr: 10

Static Magnetic Field: A Novel Method of Enhancing Growth, Ammonia Filtration, and Oxygen Output in Chlorella vulgaris

S: Palos Verdes Peninsula High School
D: PVPUSD
C: Greenberg, Mark

S1013 Lin, Angelina Gr: 11

Algae NanoTextiles: A Sustainable and Versatile Alginate-based Textile Infused With Nanotechnologies

S: Brentwood School
D: Independent/Private
C: Fukuji, Darlene

S1014 Kim, Aiden Gr: 11

Evaluation of PFAS Concentration in Local Drinking Water Sources

S: Crescenta Valley High School
D: Glendale Unified School District
C: Tuason, Orenda

S1015 Hong, Jeana Gr: 11

LaBorde, Gavin Gr: 11

Anastas, Sophia Gr: 11

Identification of Environmentally Sustainable Alternatives for Polypropylene Netting

S: Crescenta Valley High School
D: Glendale Unified School District
C: Tuason, Orenda

S1016 Luong, Sofia Gr: 9

Effects of Varied Packaging Material on Stored Cucumis sativus

S: Chadwick School
D: Palos Verdes
C: Figueroa, Dijanna

S1017 Garcia, Ariana Gr: 10

Perez, Ruby Gr: 10

Repurpose Peels & Reduce Waste

S: Pomona Unified School District Senior Division
D: Pomona Unified School District
C: Gardea, Bridget

**S1018 Lamichhane, Karuna Gr: 11
Pranav, Ishita Gr: 12**

Hybrid Purification: Integration of BioSand and Chemical Coagulation

S: Gretchen Whitney High School
D: ABC Unified School District
C: Song, Nitta

S1019 Fox, Faith Gr: 11

Fastoso, Evan Gr: 11

Howell, Gabriel Gr: 12

The Quality of Paper Made From Different Invasive Plants

S: North Hollywood High School
D: Los Angeles Unified
C: Deutsch, Christi

S1020 Pang, Nathan Gr: 12

Repurposing Surfboard Materials for Effective Insulated Coolers

S: Crescenta Valley High School
D: Glendale Unified School District
C: Tuason, Orenda

S1021 Agrawal, Neha Gr: 10

A Sticky Solution to Polystyrene Pollution: Determining the Optimal Polystyrene Product to Create the Strongest Adhesive When Dissolved in Acetone

S: Gretchen Whitney High School
D: ABC Unified School District
C: Song, Nitta



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S10 • Environmental Management - Sr

S1022 Jimenez, Olivia Gr: 11

*Can Swro Brine Water Be Used to
Power a Desalination Plant?*

S: Pioneer High School
D: Whittier Union High School District
C: Murray, Matthew

S1023 Sun, Bill Gr: 12

*Exploring the Usage of Metal Organic
Frameworks for Atmospheric Water
Harvesting*

S: The Webb Schools
D: Claremont Unified
C: Martin, Joseph

S1024 Soh, Ella Gr: 10

*Testing the Effectiveness and
Practicality of Fungi in Mycofiltration
Systems*

S: Crescenta Valley High School
D: Glendale Unified School District
C: Tuason, Orenda

S1025 Chen, Jonathan Gr: 10

*Exploring the Role of Circular
Agriculture, Specifically Organic
Farming, in Greenhouse Gas Emission
Mitigation*

S: Diamond Bar High School
D: WVUSD
C: SORENSEN, ERIC

S1026 Kwok, Shandra Gr: 10

Down the Drain

S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

S1027 Rowe, Xavier Gr: 10

*Testing the Methane Yield of Different
Food Groups*

S: Science Academy STEM Magnet
(Senior Division)
D: LAUSD
C: Fontilea, Kristin

**S1028 Purani, Kshitij Gr: 11
Ananian, Grigori Gr: 11**

*Integrating Vanadium Flow Battery
Based Microgrid Into Digital Agriculture
Frameworks*

S: Chatsworth Charter High School & G
+STEAM HS
D: Los Angeles Unified School District
C: Tashjian, Sareen



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division

S11 • Mathematics & Computer Sciences - Sr

S1101 Yamada, Yumi Gr: 9

Connect 4 strategy

S: National Youth Community Center (Senior)

D: 2

C: Kim, Wonjong

S1102 Prabhutendolkar, Atharv Gr: 11

DDoS Auto Defender

S: Arcadia High School

D: Arcadia Unified School District

C: Munoz, Jorge

S1103 Chang, Brandon Gr: 10

Guha, Omkar Gr: 11

Gao, Kent Gr: 11

An Analysis of Insecticide-Treated Nets on Malaria Transmission Dynamics in Malawi

S: West Ranch HS

D: William S. Hart UHSD

C: Hughes, William

S1104 Renteria, Carlos Gr: 11

Can a Car Self Drive With Coding

S: Pioneer High School

D: Whittier Union High School District

C: Murray, Matthew

S1105 Huang, Henry Gr: 9

Creating an Artificial Intelligence Neural Network for Critiquing Expressive Piano Performance

S: Palos Verdes Peninsula High School

D: PVPUSD

C: Greenberg, Mark

S1106 Lee, Jason Gr: 11

Integrative Analysis of Multi-Omics Data: A Machine Learning Approach to Breast Cancer Diagnosis and Recurrence

S: Palos Verdes High School

D: Palos Verdes Unified School District

C: Munoz, Julie

S1107 Luo, Justin Gr: 9

A.I. Angling: Applying Machine Learning to Fish Weight Estimation

S: Flintridge Preparatory School

D: Independent

C: Frewen, Shane

S1108 Paz, Matthew Gr: 11

WISEnet: A Fourier-Based Machine Learning Model to Extract Stellar Candidates From the NEOWISE Space Telescope Single-Exposure Database

S: Pasadena High School

D: Pasadena Unified School District

C: Rupel, Dylan

S1109 Yuan, Yuheng Gr: 11

Empathetic AI: Enhancing ChatGPT with Speech Emotion Recognition for Responsive Human-AI Interaction

S: The Webb Schools

D: Claremont Unified

C: Martin, Joseph

S1110 Cheng, Ziyao Gr: 10

DeepBrain: A Convolutional Neural Network Based Pipeline For Multiclass Classification of Brain Tumor MRI Images

S: Palos Verdes Peninsula High School

D: PVPUSD

C: Greenberg, Mark

S1111 Wang, Zixiang Gr: 11

Advancing Biomedical Predictions: Multi-View Graph Convolutional Networks for Drug-Target Interactions

S: The Webb Schools

D: Claremont Unified

C: Martin, Joseph

S1112 Dalva, Michael Gr: 12

Monte Carlo vs. Temporal Difference on the Effectiveness of Reinforcement Learning

S: Granada Hills Charter High School

D: Granada Hills Charter.

C: Shah, Tripti

S1113 Liao, HongXu Gr: 11

How Does Gaming Affect Your Reaction Rate?

S: Walnut High School

D: Walnut Valley Unified

C: Lim, Garrett

S1114 Gai, Emily Gr: 10

Application for Detecting Dangerous Drug Drug Interactions

S: Crescenta Valley High School

D: Glendale Unified School District

C: Tuason, Orenda

S1115 Yuan, Haoqin Gr: 10

AI for ET Searching

S: Brentwood School

D: Independent/Private

C: Fukuji, Darlene

S1116 Payasam, Siddarth Gr: 11

Testing for Alzheimer's Disease Progression Using Artificial Intelligence

S: Crescenta Valley High School

D: Glendale Unified School District

C: Tuason, Orenda

S1117 Tian, John Gr: 10

GradeWithAI

S: Mira Costa High School

D: MBUSD

C: Nodado, Ernesto

S1118 Chen, Chih-Bo Gr: 11

Spatialized Motion Sound Localization

S: San Marino High School

D: San Marino Unified

C: Leong, Ann

S1119 Ghatei, Ilia Gr: 9

Pham, Adrian Gr: 9

A Novel Multi-Step AI Software: Enhancing the Diagnosis of Multiple Myeloma via Serum Protein Electrophoresis and Immunofixation Analysis.

S: El Camino Real Charter High School

D: El Camino Real Charter High School

C: Montague, Rosalinda

S1120 Benedicto, Vela Gr: 11

A Novel Few Shot AI Modeling Approach Toward Blood Culture Classification and Identification

S: Crescenta Valley High School

D: Glendale Unified School District

C: Tuason, Orenda

S1121 Slomka, Anshu Gr: 12

CVstat: Obtaining Automated Advanced Statistics for Televised Football(Soccer) Matches.

S: New West Charter High School

D: Los Angeles County

C: Thompson, Sarah

S1122 Ghazarian, Ruben Gr: 11

Identification of UAV's Using Python

S: AESA STEM Academy

D: 10

C: Juharyan, Sona



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division

S11 • Mathematics & Computer Sciences - Sr

S1123 Wu, Tianqi Gr: 9

Effects of Training Variables on the Performance of Artificial Neural Networks

S: Palos Verdes High School
D: Palos Verdes Unified School District
C: Munoz, Julie

S1124 Chen, Yanjun Gr: 10

Application of Deep Learning Method on Diagnosis of Histopathology-Based Oral Squamous Cell Carcinoma

S: Palos Verdes Peninsula High School
D: PVPUSD
C: Greenberg, Mark

S1125 Nunes, Zalea Gr: 10

Performance of Artificial Intelligence in Kidney Cancer Lesion Auto Segmentation Using CT Images

S: Pasadena High School
D: Pasadena Unified School District
C: Rupel, Dylan

S1126 Romero, Andrew Gr: 11

cortes, christopher Gr: 11

The Probability of Acquiring Play Card High-Point Characters in Relation to Shuffling Repetitions

S: Inglewood High School
D: Inglewood Unified School District
C: Arong, Luke Rey

S1127 Landau, Ziv Gr: 10

AI Potential for Disaster Damage Assessment

S: Calabasas High School
D: Las Virgenes Unified School District
C: Boelman, Bradley

S1128 Das, Susmit Gr: 9

Drug Recommendation System Using NLP and Machine Learning

S: Academy of the Canyons Middle College High School
D: William S. Hart Union High School District
C: Koegle, Mike

S1129 Ganapathy, Sanjay Gr: 10

Unveiling Real Estate Prediction Models: Exploring Regression for Price Estimation

S: Gretchen Whitney High School
D: ABC Unified School District
C: Song, Nitta

S1130 Li, Hao Gr: 11

Cohesive Self-Dual Yang-Mills Modules Over Four Manifolds

S: Sierra Canyon School
D: Northwest
C: Bryan, Veronica

S1131 Hsieh, Jeremy Gr: 11

Few Shot Machine Learning-based Viability Analysis of 3D Tissue Cultures

S: Polytechnic School
D: Polytechnic School
C: Barnes, Robin

S1132 Biju, Akanksha Gr: 9

Centered Tracking System

S: Arcadia High School
D: Arcadia Unified School District
C: Munoz, Jorge

S1133 Rahman, Wahida Gr: 12

Assessing the Accuracy and Reliability of AI-Generated Responses for Standardized Test Questions: A Comparative Study

S: USC East College Prep
D: LAUSD
C: Satya-Mohandoss, Kavitha

S1134 Bi, Zexin Gr: 11

"Are We Inviting Danger?" Unveiling the Vulnerabilities of In-Hospital Mortality Prediction Models to Backdoor Attacks

S: The Webb Schools
D: Claremont Unified
C: Martin, Joseph



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S12 • Microbiology - Sr

S1201 Duenas, Anai Gr: 11

Bactrilogy

S: Magnolia Science Academy 4
(Senior Division))
D: Los Angeles Unified School District
C: Marten, Christopher

S1202 Adalin, Nolan Gr: 11
Viengkhou, Ryan Gr: 11

*The Effectiveness of Bacteriophage as
an Alternative to Antibiotics*

S: Don Bosco Technical Institute
D: Archdiocese of Los Angeles
C: Jenkins, Joma

S1203 Negrin, Layla Gr: 10
Collis, Caroline Gr: 10

*From Microplastics to Microbes: The
Effects of PET Microplastics in B.
subtilis Biofilm Formation and Antibiotic
Resistance*

S: Archer School for Girls (Senior)
D: Private
C: Neshek, Jerilyn

S1204 Balian, Lily Gr: 11
Balian, Brianna Gr: 11

*Effects of Glucose and Fatty Acids on
Primary Rat Neural Cells*

S: La Salle College Preparatory
D: Pasadena
C: Parga, Elizabeth

S1205 Kalaydjian, Izabella Gr: 9
Bedrosian, Ella Gr: 9

Five Second Rule

S: Holy Martyrs Ferrahian High School
D: Private in LA
C: Chahinian, Sanahine

S1206 Iwata, Manon Gr: 10

*In Search of Pre-biotics: The Effects of
Over-the-Counter Products on the
Growth of "Good Bacteria"*

S: Westridge School for Girls
D: Independent
C: Perahya, Daniel

S1207 Lin, Mark Gr: 12

*Fueling the Future: Isolation of *Chlorella
vulgaris* Biomass From Novel Media
Structure*

S: Cabrillo Marine Aquarium, City of Los
Angeles Department of
D: LAUSD
C: Spies, Brenton

S1208 Bonk, Sarah Gr: 10

Oh, Chloe Gr: 10

Xu, Emma Gr: 10

*How Temperature Affects the Enzymes
Saccharomyces Cerevisiae*

S: Flintridge Preparatory School
D: Independent
C: Frewen, Shane

S1209 Pang, Lexi Gr: 10

*Are you Catching More Than Just
Waves In Your Wetsuit?*

S: Crescenta Valley High School
D: Glendale Unified School District
C: Tuason, Orenda



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S13 • Pharmacology - Sr

S1301 Lim, Connie Gr: 12

Wnt-5a Stimulates Diabetic Corneal Epithelial Wound Healing and Stem Cells

S: Palos Verdes High School
D: Palos Verdes Unified School District
C: Munoz, Julie

S1302 Tulloch, Ella Gr: 9

The Effects of Different Diets on Neurological Function; Implications for Alzheimer's and Parkinson's Disease

S: Archer School for Girls (Senior)
D: Private
C: Neshek, Jerilyn

S1303 Vincent, Finley Gr: 10

The Effects of Epigallocatechin Gallate (EGCG) and Nano-EGCG on CdCl₂ and TPA Induced Cancerous Tumors Within Planaria Model

S: Archer School for Girls (Senior)
D: Private
C: Neshek, Jerilyn

S1304 Kyaw, Catherine Gr: 11

Tong, Chloe Gr: 11

Xu, Jia Qi (Teresa) Gr: 11

Insight Into the Alzheimer's Disease Medication

S: Temple City High School
D: Temple City Unified
C: Martinez, Jeannie

S1305 Tom, Bryce Gr: 11

Analysis of Synergistic Treatment of Candida Albicans Using Fluconazole and a Next-Generation Echinocandin in Vitro

S: Palos Verdes Peninsula High School
D: PVPUSD
C: Greenberg, Mark



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division S14 • Physics - Sr

S1401 Romo, Anthony Gr: 11

Powering a Ping Pong Ball Particle Accelerator using a Wimshurst Generator

S: USC East College Prep
D: LAUSD
C: Satya-Mohandoss, Kavitha

S1402 Wang, Mark Gr: 11

Stefan Boltzmann

S: Pomona Unified School District
Senior Division
D: Pomona Unified School District
C: Gardea, Bridget

S1403 Buford, Andre Gr: 11

Derrick Crane

S: Inglewood High School
D: Inglewood Unified School District
C: Arong, Luke Rey

**S1404 Manikandan, Harshini Gr: 10
Lee, Geonhee Gr: 10**

How Does the Aspect Ratio of the Wing of the Aircraft Correspond to the Lift and Drag Ratio?

S: Science Academy STEM Magnet (Senior Division)
D: LAUSD
C: Fontile, Kristin

S1405 Marin, Karen Gr: 11

How Does Temperature Affect the Bounce of Tennis Balls?

S: Pioneer High School
D: Whittier Union High School District
C: Murray, Matthew

S1406 Ananian, Alexander Gr: 11

The Frictionless Future: Analyzing the Viability of Ground Effect Vehicles in Modern-Day Infrastructure

S: Chatsworth Charter High School & G+STEAM HS
D: Los Angeles Unified School District
C: Tashjian, Sareen

S1407 Lothamer, Bryce Gr: 11

Implications for Kinetic Energy Conservation

S: Walnut High School
D: Walnut Valley Unified
C: Lim, Garrett

**S1408 Sasu, Ilinca Gr: 9
Katal, Ryan Gr: 9**

Which Fin Can Win?

**S1409 Ruiz, Lizbeth Gr: 11
palacios, john Gr: 11**

Pressure From a Manometer Reader

S: Inglewood High School
D: Inglewood Unified School District
C: Arong, Luke Rey

**S1410 Lee, Melissa Gr: 9
Lee, Alexander Gr: 10**

Measuring Fall Risk Using the Internet-of-Things Automatic Chair

S: The Webb Schools
D: Claremont Unified
C: Martin, Joseph

S1411 Olvera, Edwardo Gr: 11

Steaming Hot Tunes

S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

S1412 Avakyan, Michael Gr: 10
Which Is a Better a Thickening Agent? Cornstarch or Flour.

S: Holy Martyrs Ferrahian High School
D: Private in LA
C: Chahinian, Sanahine

S1413 Ayzazyan, David Gr: 9

Hook's Law

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

S1414 Azam, Rayan Gr: 10

Too Loud To Handle! Assessing dB Attenuation Performance of Common Building Materials

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

S1415 Mirza, Arhum Gr: 9

Lift Off! Using Ionic Thrust for Cleaner Air Travel

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

**S1416 Pogosov, Artur Gr: 10
Titizian, Joey Gr: 10
CHAKALYAN, Alex Gr: 10**

Absorption of Radiant Energy by Different Colors

S: Holy Martyrs Ferrahian High School
D: Private in LA
C: Chahinian, Sanahine

S1417 Liorsdottir, Steinunn Gr: 11

The Price Equation and the Virial Theorem

S: Flintridge Preparatory School
D: Independent
C: Frewen, Shane

S1418 Boghossian, Raffi Gr: 11

Skip-Slip

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

S1419 Chakrian, Armen Gr: 11

Counting the Repeating Measurements of the Number of Counts of 60Co/bolt

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

**S1420 Baig, Amena Gr: 9
Dadabhoy, Hanzalah Gr: 9
Shereef, Amal Gr: 9**

Breaking the Sound Barrier: A Novel Approach to Enhance Speech Perception in Hard of Hearing Individuals Using Tactile Sound Feedback

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

**S1421 Gyadukyan, Alexander Gr: 11
Kim, Euseok Gr: 12**

Measuring the Coefficient of Drag

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

**S1422 Dolbakian, Anthony Gr: 9
Minasyan, Grant Gr: 9
Galadjian, Alex Gr: 9**

Wind Turbine Efficiency

S: Holy Martyrs Ferrahian High School
D: Private in LA
C: Chahinian, Sanahine

S1423 Akbar, Arshak Gr: 9

Increase the Positivity: How Do Shapes Affect Positive Charge Accumulation in an Ion Wind Rotor?

S: Arcadia High School
D: Arcadia Unified School District
C: Munoz, Jorge



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S14 • Physics - Sr

S1424 Zuo, Hongru Gr: 11

Calculating the Trajectory Equation of a Metallic Field

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

S1425 Lee, Jaekyeom Gr: 12

Determining the Equation of a Standing Wave, Its Power, and Its Energy

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

S1426 Batkhuyag, Munkhtushig Gr: 9

Bohr Theory of Hydrogen

S: AESA STEM Academy
D: 10
C: Juharyan, Sona

S1427 Luckenbach III, Richard Gr: 11

Morales, Jose Gr: 11

Investigating the Impact of Temperature on Musical Instruments

S: Pioneer High School
D: Whittier Union High School District
C: Murray, Matthew

S1428 Rivera, Oscar Gr: 9

Electromagnet: Voltage and Force of Attraction

S: Inglewood High School
D: Inglewood Unified School District
C: Arong, Luke Rey



2024 LOS ANGELES COUNTY SCIENCE & ENGINEERING FAIR

Senior Division
S15 • Plant Biology & Physiology - Sr

S1501 Flores, Xitlalli Gr: 11
Gomez, Ariel Gr: 12

Plants 2 Fresh

S: Schurr High School
D: Montebello Unified School District
C: Islas, Myriam

S1502 Pashayan, Sophie Gr: 10

pH and Plant Growth

S: Rose and Alex Pilibos Armenian High School
D: private
C: Mishler, Jacque

S1503 Htun, Tinwin Gr: 9

Size and Orientation Requirements for Propagation of Dragon Fruit (Hylocereus undatus) Plant Clippings

S: North Hollywood High School
D: Los Angeles Unified
C: Deutsch, Christi

S1504 Kagiwada, Alexa Gr: 10

The Effect of Ocean Acidification on the Oxygen Production of Dunaliella salina Algae

S: Archer School for Girls (Senior)
D: Private
C: Neshek, Jerilyn

S1505 Rupp, Emily Gr: 10

The Effects of Caffeine on Bell Pepper Plants

S: Palos Verdes High School
D: Palos Verdes Unified School District
C: Munoz, Julie

S1506 Lim, Story Gr: 10

Mauer, Elyse Gr: 10

Lavichant, Kaitlyn Gr: 10

The Effect of Natural Preservatives on the Rate of Oxidation in Persea americana

S: Flintridge Preparatory School
D: Independent
C: Frewen, Shane

S1507 Banda, Allison Gr: 11

Does Frequency Affect Phaseolus vulgaris?

S: Pioneer High School
D: Whittier Union High School District
C: Murray, Matthew

S1508 Liu, Joanna Gr: 10

Colorful Light for Colorful Plants

S: Westridge School for Girls
D: Independent
C: Perahya, Daniel

S1509 Shafi, Huda Gr: 9

Salameh, Zaina Gr: 9

Plant Power: Assessing the Anticancer Properties of Plant Extracts through Cress Seed (Lepidium sativum) Germination

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

S1510 Farooqui, Noor Gr: 9

Khan, Amal Gr: 9

Space Shrooms: Examining the Influence of Microgravity on Oyster Mushroom (Pleurotus ostreatus) Growth

S: Institute of Knowledge High School
D: Walnut
C: Khan, Selena

S1511 Vivot, Bryanna Gr: 9

Robey, Lydia Gr: 9

Soil Test

S: Pomona Unified School District
Senior Division
D: Pomona Unified School District
C: Gardea, Bridget

S1512 Bhavsar, Gaia Gr: 9

Unveiling the Future of Algae Carbon Sequestration and Biofuel Breakthroughs

S: Archer School for Girls (Senior)
D: Private
C: Neshek, Jerilyn

We enthusiastically support the

2024

**LOS ANGELES
COUNTY**

**SCIENCE &
ENGINEERING
FAIR**



Congratulations

to all our young students for seeking
to solve real-world problems through
their creativity and innovation.



SABAN Family Foundation



Broadcom Coding with Commitment[®] rewards the student between 5th and 8th grade who applies basic coding or computational thinking to solve a community problem the student cares about. Because most problems align with the 17 Sustainable Development Goals of the United Nations, the student is rewarded for thinking globally and acting locally.

THE WINNER RECEIVES A RASPBERRY PI PICO & A \$250 GIFT CARD!

After-school Code Clubs offer optimal project-based learning time for girls, under-represented and under-resourced youth to learn coding, a skill they need to advance their educational opportunities and compete for future jobs and careers in STEM.

To learn more, visit <https://www.raspberrypi.org/learn/>



FOUNDATION

www.BroadcomFoundation.org



@BroadcomFoundation



@BroadcomSTEM