

Walla Walla	Baim, Michael Allen 17 Walla Walla H.S. 1604 Howard 99362 Proposed System for Containing Oil Spills With Polymer Foam
WISCONSIN	
Brookfield	Herdeman, James Robert 17 Brookfield Central H.S. 12908 W. Graham St., Functional Responses of Solar Cells in New Berlin 53151 Respect to the Angle of Incidence and Illumination
Greendale	Damiani, Stephen Mario 17 Greendale H.S. 5907 Dawson Ct. 53129 Selected Mound and Mesoamerican Motif Parallels
Wausau	Erdmann, Debra Sue 17 Wausau West H.S. 1601 Cherry St. 54401 Effects of Sediment on Kaneoheaponi
Wauwatosa	Sommerer, John Curtis 17 Wauwatosa West H.S. 545 N. 114 St. 53226 Mapping the Color Sensitivity of the Human Eye
WYOMING	
Cheyenne	Lowe, Thomas Allen 17 Cheyenne Central H.S. 720 Pike St. 82001 Method for Identifying Igneous Rocks by Comparing Densities

# HONORS GROUP

IN

THE 34th ANNUAL

*Science Talent Search®*

for the  
Westinghouse Science Scholarships  
and Awards

1975



SCIENCE CLUBS OF AMERICA

Administered By Science Service  
1719 N STREET N. W. WASHINGTON, D. C. 20036

## The Meaning of Honors in the Science Talent Search

The achieving of Honors in the Science Talent Search is an evidence of ability and interest in science and engineering which can be taken into consideration by colleges and universities in admissions and granting of scholarships. For this reason this Honors List is distributed to all universities and colleges of the United States utilizing a list furnished by the American Council on Education.

All boys and girls awarded Honors in the Science Talent Search are considered so outstanding that any institution of higher learning will be justified in considering their abilities carefully.

In past years members of the Honors Group have made creditable records in the colleges and universities to which they have been admitted.

From the list of 300 Honors, 40 are being chosen as Winners of the Washington trip. Among these \$67,500 in scholarships and awards will be distributed. The Winners are being announced subsequent to the distribution of this list and their names will be published in Science News of February 1, 1975, and it will be sent upon request accompanied by a self-addressed stamped envelope.

Each of those winning honors is being furnished with multiple certifications intended to accompany applications for college admissions and scholarships, but a listing in this pamphlet should be accepted as an equivalent certification.

Judging in this competition was without regard to sex. Listed are 69 girls and 231 boys. Of the Honors Group 60.7% rank in the upper 5% in their high school classes.

## The Annual Science Talent Search

The Science Talent Search was the pioneering endeavor to discover at the high school senior year level those who have the potentialities to become the research scientists and engineers of the future. It has fulfilled this function far beyond the hopes entertained when this educational project was conceived. Many millions of dollars in scholarships in colleges and universities throughout the nation, supplementing the Westinghouse Science Scholarships, have been given to those who have thus been discovered to have high science talent.

This selection of students with research ability in science and engineering has become an institution and tradition due to approval from the academic community and the creditable records of winners in colleges, universities and professional positions.

In a real sense the annual Science Talent Search is more than a scholarship contest. It is a major step toward making scientific and engineering talent available for important tasks in our civilization.

The participation of a great industrial organization in the financing of the annual Science Talent Search is a notable contribution to the advancement of science in America. This activity can be considered a support of "pure research" of importance equal to the fundamental researches in the Westinghouse Research Laboratories. Science and education are grateful for the financial support of the thirty-four Science Talent Searches by the Westinghouse Educational Foundation, an organization endowed by the Westinghouse Electric Corporation for the promotion of science and engineering.

Science Service, engaged in the interpretation and public understanding of science on a broad front, is proud of administering the annual Science Talent Search. From the newspapers, educators, scientists and engineers of America there has been enthusiastic cooperation in this annual activity that means so much to high school seniors interested in science and engineering.

## Honors Group

### *in the Thirty-fourth Annual Science Talent Search ®*

HOME ADDRESS is underlined

AGE of winner follows name

Title of project report submitted is on next line

#### ALABAMA

Birmingham	Mashburn, Jay Parker 17 Homewood H.S. <u>448 Crest Dr.</u> 35209 Mapping of Heat Rise Within an Ultrasonic Beam
Decatur	Day, Denisa Faye 17 Austin H.S. <u>1512 15 Ave. S.W.</u> 35601 Production of Starch Through Artificial Photosynthesis in <i>Escherichia coli</i>
	Grooms, Susan Dianne 17 Austin H.S. <u>1302 Garth Ave. S.W.</u> 35601 Study of Beta-Glucuronidase Enzyme Production Due to Rheumatoid Arthritis and the Anti-Inflammatory Effects of Catecholamines
Fort Payne	Lyons, Jeffrey Howard 18 Fort Payne H.S. <u>401 18 St. S.W.</u> 35967 A Quantitative Study of the Bromate-Bromide Reaction
Huntsville	Lundberg, Eloise Karin 17 Huntsville H.S. <u>123 Noble Dr.</u> 35802 Isolating and Identifying Antibiotics
	Nein, Alexander Garry 17 Randolph School <u>820 Jacqueline Dr.</u> 35802 Analysis of Heat Pipe Design Characteristics and Their Effect on Performance
	Walker, William Flynn 18 Randolph School <u>1808 Drake Ave. S.E.</u> 35802 Biomedical Applications of Holographic Nondestructive Testing

#### ALASKA

Anchorage	Agosti, Tam Elizabeth 17 West Anchorage H.S. <u>2324 Loussac Dr.</u> 99503 Arthrobacter in Arctic Oil Seeps and the Microbial Oxidation of Crude Oil Residue by Certain Arthrobacter Species
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#### ARKANSAS

Springdale	Vaughan, Patrick Lee 18 Springdale H.S. <u>504 Maple Dr.</u> 72764 Decay of the Latent Image in Photographic Emulsion
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#### CALIFORNIA

Alhambra	Fang, Meiling Laura 17 Alhambra H.S. <u>1401 Stonewell St., Monterey Park</u> 91754 <u>In vivo Staining of Caenorhabditis elegans</u> in Preparation for Cell Surgery by Laser
Corning	Babb, Thomas Andrew 17 Corning Union H.S. <u>Rt. 1, Box 251-F</u> 96021 Petroleum Degradation: A Comparative Study of Two Microbes Using Diesel Fuel and Pure Hydrocarbons
Costa Mesa	Brottemarkle, Donald Jeffery 17 Costa Mesa H.S. <u>2391 Comstock St., Orange</u> 92665 Optical Analysis of Polymer Structures
Fremont	Tschantz, Steven Thomas 17 Irvington H.S. <u>40811 Blacow Rd.</u> 94538 Convergence of Iterative Sequences
Glendale	Morrison, Robert Darsie 18 Glendale H.S. <u>1231 N. Howard</u> 91207 Design of a Fully Programmable Computer
La Jolla	Marchak, Daniel Robert 17 La Jolla H.S. <u>430 Retaheim Way</u> 92037 Model System for Facilitated Diffusion of Glucose Across Cell Membranes
Los Altos	Danis, Ronald Peter 17 Los Altos H.S. <u>25390 La Rena Lane, Los Altos Hills</u> 94022 Occurrence of Monotropism in <i>Dileptus anser</i>

Los Angeles Chi, Bo Kyung 18 Belmont H.S. 830 S. Parkview St. #101 90057  
 Factors Affecting Formation of Boules in Distilled Water and Some Organic Liquids  
 Baumgartner, Fritz John 17 Loyola H.S. 1022 S. Wilton Pl. 90019  
 Amino Acid Content of Trained and Untrained Planaria  
 Poway Koniges, Alice Evelyn 16 Poway H.S. 16715 Calle Corta 92064  
 Chromospheric Activity in Late-Type Spectroscopic Binary Stars  
 San Diego Messer, Pamela Gay 17 Patrick Henry H.S. 6758 Ballinger Ave. 92119  
 Effects of Varying Audio Stimuli on the Response Time of the Autistic Child  
 Schechter, Stuart 16 Muir Alternative 3638 Mt. Abbey Ave. 92111  
 Definition and Alteration of Pelargonium Growth Medium pH Limits Using Soil Analysis  
 San Jose Craig, Julia Ann 17 Leigh H.S. 15320 Blossom Hill Rd., Los Gatos 95030  
 Relationship of Dipeptide Structure to Chromatographic Behavior  
 San Rafael Meyer, Paul Wells 17 San Rafael H.S. 9 Eucalyptus Lane 94901  
 Measuring CO<sub>2</sub> Concentrations in Air Using an Electrical Method  
 Santa Barbara Bjorkman, Teri Ellin 16 San Marcos H.S. 5853 Azalea Way, Goleta 93017  
 Solar Powered, Moisture Actuated, Watering System  
 Kikuchi, Derrick Thomas 16 San Marcos H.S. 3742 Brenner Dr. 93105  
 Magnetic Pyrometer: Energy From the Sun  
 Santa Monica Nagano, Christopher Dike 18 Santa Monica H.S. 931 Centinela Ave. 90403  
 Tiger Beetles of the Genus Cicindela Found in Southern California With an Artificial Key  
 Spring Valley Grunloh, Howard James 17 Monte Vista H.S. 3640 S. Barcelona 92077  
 Effects of Input Energy on the Surface Tensions of Liquids  
 Van Nuys Hunter, Cora Ann 17 Van Nuys H.S. 15851 Royal Meadow Pl., Sherman Oaks 91403  
 Determination of Freeway Traffic Capacity Through Manual Observations

#### COLORADO

Colorado Springs Pratt, Pamela Jennison 17 Roy J. Wasson H.S. 2021 Monteagle 80909  
 Effects of Drugs on the Orb-Weaving Spiders  
 Fort Morgan Mayberry, Michael Charles 17 Fort Morgan H.S. 402 S. Lake 80701  
 Distribution of the Prime Twins  
 Pueblo Fitterman, Robert Keith 17 South H.S. 62 Fordham Cir. 81005  
 Computer Program for Algebraic Manipulations

#### CONNECTICUT

New Haven Webber, Henry Steven 17 Richard C. Lee H.S. 95 Kohary Dr. 06515  
 The Decomposability of Certain Integer Primes  
 North Haven Erba, Harry Paul 17 North Haven Sr. H.S. 40 Corey Rd. 06473  
 Buoyant Density of Ribosomal DNA of Tetrahymena pyriformis  
 Wallingford Lounsherry, Barbara Jeanne 17 Choate Rosemary Hall School 55 Pratt Dr., New Orleans, Louisiana 70122  
 Gravity Simulator and Other Techniques Applied to the Compound Pendulum With Prototype Apparatus  
 West Haven Piccirillo, James Samuel 17 West Haven H.S. 27 Clover St. 06516  
 Laser Isotope Separation  
 Wilton Krajewski, Lynne Ann 17 Wilton H.S. 1 Wilton Acres 06897  
 Method of Determining Orbital Characteristics of Astrometric Binary Star System Sirius A and B

#### DISTRICT OF COLUMBIA

Washington Jenkins, Reginald Kevin 18 Gonzaga H.S. 505 G St. S.W. 20024  
 Effects of Chalones on the Morphology of Transformed Lymphocytes

#### FLORIDA

Chipley McGlamery, Maria Duane 17 Chipley H.S. Rt. 2, Box 175, Cottondale 32431  
 Liesegang Banding: A Colloidal Phenomenon of Periodic Precipitation

Cocoa Pillus, Lorraine Alice 17 Cocoa H.S. 1046 Bellefonte Dr. 32922  
 Modifications in the Virulence of the Highly Infective CC10 Strain of Rhizobium trifolii  
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 Acquisition of Genetic Elements in Prokaryotic Cells: The Role of Transducing Viruses  
 Daytona Beach Jewell, Charles Francis, Jr. 17 Mainland Sr. H.S. 1408 Richmond Ave., Holly Hill 32017  
 Effect of Orange Juice on the pH of Urine  
 Fort Conley, Daniel Joseph 17 Dillard H.S. 1620 N.W. 11 Terr. 33311  
 Thermal Homolytic Fragmentations of Cyclic Ozonides  
 Lauderdale Goodman, Arnold L. 16 Nova H.S. 1745 S.E. 10 St. 33316  
 Quantitative and Comparative Studies on the Toxin of Four Species of Actinia  
 Schwartz, Janet Ann 17 Nova H.S. 5341 S.W. 10 Ct., Plantation 33317  
 Effects of Ultra-Violet Radiation and DNA Transformation Upon the Sodium Requirement of Marine Pseudomonas  
 Barrell, James Edward 17 Buchholz H.S. 3436 N.W. 7 Ave. 32607  
 Influence of Significance and Expectation Directed Towards a Particular Outcome on Subsequent Emotional States  
 Yu, Clare C. 17 Gainesville H.S. 1753 N.W. 14 Ave. 32605  
 Spectroscopic Study of 9-Hydrazinoacridine and Its Interactions With DNA  
 DuPree, Michelle Dianne 17 Terry Parker Sr. H.S. 5501 University Club  
 Effects of Reinforcement and Punishment Blvd. Apt. 243 32211  
 on the I.Q. Test Scores of Third Grade Children  
 Lyon, Vicki Gayle 17 Sandalwood Sr. H.S. 700 Leon Rd. Lot 71 32216  
 Modification of Phototactic Responses of the E. gracilis  
 Ellis, George David 17 Largo Sr. H.S. 365 Velma Dr. 33540  
 Development of Fortran Software for the Real-Time Computation of Orbital Ephemerides  
 Stephenson, Stan Kenneth, Jr. 16 Largo Sr. H.S. 203 Poinciana Lane 33540  
 Botanical Psychodynamics as Determined by Galvanometric Response to Servomechanism Actuated Environmental Stimuli  
 Denninghoff, John Philip 17 Merritt Island H.S. 1665 Mars St. 32952  
 Chemotaxonomical Relationship Between the n-Alkane Distributions in the Cuticle Waxes of Various Ferns and Palms  
 Miami Barciela, Susana 17 Miami Sr. H.S. 500 N.W. 43 Pl. 33135  
 Photosynthetic Marine Bacteria as a Nutrient Source  
 Osofsky, Michael Steven 17 Southwest Miami H.S. 3404 S.W. 130 Ct. 33175  
 An Analysis of the Rolomite  
 Weeks, Douglas Dale 17 Southwest Miami H.S. 8340 S.W. 58 St. 33143  
 Phytoplankton Growth Rates as Determined by Various Prepared Media  
 Cohen, Wendy Sue 17 Miami Beach Sr. H.S. 7532 Hispaniola Ave., North Effects of Photoreactivation on Post-Irradiation Repair in Bacteria Bay Village 33141  
 Miami Beach North Miami Auffret, Jean-Pierre 17 North Miami Sr. H.S. 110 N.E. 158 St. 33162  
 Study of Effect of Temperature on Bioelectric Potential of Valonia macrophysa  
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 Maier, Michael William 17 Satellite H.S. 116 Bomarc Lane 32937  
 Observational Study of a Summertime Tropical Tornado  
 Tallahassee Steenblik, Richard Arend 17 Leon H.S. 311 Talwood Dr. 32303  
 Method for Simulating and Studying Weather Systems in a Liquid Medium  
 Titusville Foch, Richard James 17 Astronaut H.S. 270 S. Christmas Hills Rd. 32780  
 Investigation of the Kline-Fogleman Airfoil

#### GEORGIA

Atlanta Shapira, Stuart Kohler 17 Briarcliff H.S. 954 Liawen Ct. N.E. 30329  
 Comparative Biochemical Analysis of Mouse Hemoglobins Using Electrophoresis, Chromatography and Amino Acid Analysis  
 Langford, John Sholar III 17 Northside H.S. 2765 Northside Dr. 30305  
 Sounding Off About Temperature Inversions  
 Griffin Burns, James William 17 Griffin H.S. 1010 E. McIntosh Rd. 30223  
Zea mays L. as Affected by Gibberellic Acid

	McKemie, Charles Edward 17 Griffin H.S. 1113 Zebulon Rd. 30223 The Waldron Shale: Faunal Interpretation of a Fossiliferous Silurian Formation	Kentland	Castongia, Steven John 17 South Newton H.S. 203 S. Fourth St. 47951 Temperature and Plankton Populations in Eutrophic Waters
	HAWAII	Lawrenceburg	Watts, Willard Anthony 17 Lawrenceburg H.S. 946 Nowlin 47025 Mass and Energy Reactions Between Electrons and Positrons
Aiea	Ching, Wendell Tuk Wing 17 Aiea H.S. 99-1242 Napuanani Rd. 96701 Probe Into Regulation of the Armyworm	Terre Haute	Levine, James Howard 17 South Vigo H.S. 308 Hickory Hill Rd. 47802 Determination of Optimal Conditions for the Fusion of Protoplasts Using a Dye Indicator and the Release of Protoplasts
Honolulu	Dacanay, Samuel 18 Aiea H.S. 99-365 Kulawea Pl. 96701 Controlled Symbiosis: The Key to Control of Subterranean Termites?		IOWA
Pearl City	Kakazu, Kerry Kenji 17 Aiea H.S. 99-551 Huakanu St. 96701 Digestion of Akoko Sap by Dictyophorodelphax	Bettendorf	Light, Robert Allan 17 Bettendorf H.S. 212 Bechtel Rd. 52722 Quantitative Study of the Factors Which Determine Strength in Wood
	Zeitlin, Scott Olof 17 Kalani H.S. 5418 Opihi St. 96821 Amino-Terminal Amino Acid Sequence of Spirulina max Ferredoxin	Carroll	Strautman, Patricia Frances 17 Kuemper H.S. 113 E. 14 St. 51401 Control of Needle Blight on Pines
	Imoto, Elaine Midori 17 Pearl City H.S. 2067 Hoolaulea St. 96782 Antibacterial Properties of a Soft Coral		KENTUCKY
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Pocatello	Willey, Robyn Lea 16 Pocatello Sr. H.S. 1352 E. Lewis 83201 Some Factors Affecting the Germination of <u>Heleochloa alopecuroides</u>	Owenton	Arnold, Joy Charlene 17 Owen County H.S. 410 W. Seminary St. 40359 Correlation of Dental Pulp Tissue Shrinkage With Human Age Estimation
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Chicago	Slusarczyk, Susan Marie 17 Lourdes H.S. 3908 W. 60 Pl. 60629 An Experiment in Speech Synthesis	Lutcher	Brignac, Donald Veron 17 Lutcher H.S. 933 Second St. 70071 Blood Protein Level in Crayfish During the Intermolt Cycle
	Yore, Brenda Eileen 17 Lourdes H.S. 5445 S. Kedvale Ave. 60632 Concentrations of Metal Ions in Plants Grown in Digested Sludge	New Orleans	Martinez, Kenneth Wayne 17 St. John Vianney Preparatory School EERAC III: An Automaton Capable of Carrying Out Many Practical Operations
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Normal	Crnekovic, Barbara Patricia 17 Nazareth Academy 1928 W. Cullerton, The Stimulus Inducing the U-Shaped Zonation Response of <u>Littorina littorea</u>	Bethesda	MARYLAND
Skokie	Retzer, Kent Arnold 17 University H.S. 316 S. Grove St. 61761 Toxins in the Portuguese Man-o-War		Grant, Jonathan Edwin 17 Bethesda Chevy Chase H.S. 2628 East West Hwy., Possible Lethal and Mutagenic Effects of Radio Waves on Mutated Strains of <u>Salmonella typhimurium</u>
	Dubin, Joel Ira 17 Niles Twp. West H.S. 5327 W. Crain St. 60076 Analysis of Short Term Deviations in Lunar Motion		Doukas, David John 17 Walter Johnson H.S. 9920 Brixton Lane 20034 Effects of Human Binding Diseases on the Level of Procollagen in the Bloodstream
Springfield	Kharasch, Evan David 17 Niles Twp. West H.S. 7043 N. Keeler Ave., Analysis of Rat Plasma Lipoproteins Lincolnwood 60646 by Gel-Filtration	Camp Springs	Fuchs, Henry Jacob 17 Walt Whitman H.S. 6201 Robinwood Rd. 20034 Detection of Hemoglobin Variants by Hemoglobin Electrophoresis
	Marsaglia, Kathleen Marie 17 Sacred Heart Academy 432 Bruns Lane 62702 Rutherford Nuclear Potential Fields	Potomac	Barkley, Stuart Austin 17 Crossland Sr. H.S. 5409 Ludlow Dr. 20031 A BASIC Interpreter for the IBM 1130
	INDIANA		Wei, Sha Hsing 17 Winston Churchill H.S. 10402 Great Arbor Dr. 20854 Liquid Beads on Liquid Surfaces
Carmel	Evans, Joseph Mark 17 Carmel H.S. 10225 Westfield Blvd., Indianapolis Separation of Allotypes in Rabbit -Globulin 46280		White, Mark Rex 18 Winston Churchill H.S. 8507 Buckhannon Dr. 20854 Formula for Finding Square Roots of Complex Numbers and 2 x 2 Matrices
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Indianapolis	White, Robert Scot 17 North H.S. 1700 N. Villa Dr. 47711 Laser Holography: Stress Patterns and Multiple Images		Marans, Jon Stephen 17 Springbrook H.S. 12120 Kerwood Rd. 20904 Mutations Affecting the Killer Character of <u>Saccharomyces cerevisiae</u>
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	Ponder, Jay William 18 North Central H.S. 6260 Allisonville Rd. 46220 A Mechanistic Study of the Dehydrohalogenation of Alkyl Halides		Maranto, Anthony Rosario 17 Phillips Academy 1628 N. Parkside Ave., Chromosomal and Anatomic Origins of Phototaxis in <u>Drosophila melanogaster</u>
	Seretny, Andrew William 18 Scenic Memorial H.S. 7242 Whitehall Dr. Anisotropic Properties of Plastic 46256		
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Holden Howard, Christopher Geurin 17 Wachusett Regional H.S. Box 111, Brooks Two Relations Between Euler's Station Rd., Princeton 01541

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Taunton Rounds, Joyce Diane 17 Taunton H.S. 235 Alfred Lord Blvd. 02780 Habitat Selection and Behavioral Patterns of Small Mammals

## MICHIGAN

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Detroit Gover, Keith Bowen 17 Redford Union H.S. 15560 Meadowbrook 48239 Genetic Variations in Hybrid Saturniidae Through Forced Copulation of Different Species

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Royal Oak Goliber, Thomas Edward 17 Shrine H.S. 1722 Greenleaf 48067 Effects of Gibberellic Acid on Certain Lower Plants

## MINNESOTA

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Minneapolis Mandel, Pierre Albert 17 The Blake Schools 18015 30 Ave. N., Wayzata 55391 Stereoisomers in the Cobalt Complex

## MISSISSIPPI

West Point Dearing, Gary Keith 17 West Point H.S. 535 Court St. 39773 Effects of Pesticides on Lactose Fermentation by Escherichia coli

## MISSOURI

Ballwin Schaefer, Anne Elizabeth 17 Parkway West Sr. H.S. 15203 Golden Rain Dr., Chesterfield 63017 Phytoplankton Cycling and Species Diversity in Lake Monroe, Indiana and Relations to Environmental Conditions

Blue Springs Masters, Stephen Edwards 17 Blue Springs H.S. 3739 Colonial Dr., Lee's Summit 64063 Annual Eclipse of the Sun of May 30, 1984

Columbia Hahn, Glenn Allen 18 Rock Bridge Sr. H.S. 1500 W. Blvd. Ct. 65201 Effects of Temperature on Wave Morphology in the Z-Reagent

Kansas City Raymond, Margaret Helen 16 Notre Dame de Sion H.S. 7220 Hullwood 64133 Investigation of the Feasibility of Using Corncob Pulp Alone and With Wood Pulp in Paper Production

Palmyra Logan, Julie Ann 17 Palmyra H.S. R.R. 1, Taylor 63471 Curves of Pursuit

## NEBRASKA

Omaha Binderup, John Scott 17 Northwest H.S. 4721 N. 65 St. 68104 Computer Simulation of the Interaction of Gamma Radiation and Matter

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Medford Adams, James Edward 17 Lenape H.S. Box 176A Hawkins Rd., Vincentown Study of the Visual Variances Within the Solar Limb Darkening

Oakhurst Pickover, Clifford Alan 17 Ocean Twp. H.S. 33 Pal Dr., Ocean 07712 Response of Nereis virens and Neptys incisa to Osmotic Stress

Pemberton McNair, Lily Daphnee 17 Pemberton Twp. H.S. 11 Spruce Blvd., Browns The Fractional Distillation of Crude Petroleum Oil Mills 08015

Red Bank Roubik, Linda Magdalene 17 Red Bank Regional H.S. 6 Holly Dr., Little Silver 07739 Base-Line Values of Oxygen Consumption in Selected Transects of the Inter-Tidal Zones of Sandy Hook

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Summit Senator, Ted Evan 17 Summit H.S. 115 Canoe Brook Pkwy. 07901 Computer Solution of Atomic Systems of More Than Two Particles

Trenton Garber, Lawrence David 17 Lawrence H.S. North 6 Tower Pl. 08638 Music Generation With the PDP-8/E Minicomputer

Union Krusch, David A. 17 Union H.S. 547 Lillian Terr. 07083 The Breeding of Drosophila melanogaster

Richter, Paul Lance 17 Union H.S. 519 Scotland Rd. 07083 Induced Interfamily Fusion of Plant Protoplasts

## NEW MEXICO

Albuquerque Russell, Timothy Michael 18 Del Norte H.S. 6205 Rogers N.E. 87110 Error Analysis of the Generalized Caporaso Equation

## NEW YORK

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Bayside Schultz, Adam 16 Bayside H.S. 208-37 32 Ave. 11361 Measurement of the Effect of Micro Meteoroids on the Production of Secondary Cosmic Rays

Fait, Don M. 17 Benjamin N. Cardozo H.S. 46-40 Springfield Blvd. 11361 Mechanisms of Photokinesis in Euglena gracilis

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Heller, Howard Hamilton 16 Benjamin N. Cardozo H.S. 50-08 232 St. 11364 Practical Numbers

Jacobson, Terry Allen 17 Benjamin N. Cardozo H.S. 46-20 216 St. 11361 Effect of Sodium Potassium on Chromosomal Puffing

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Relkin, Norman Richard 17 Benjamin N. Cardozo H.S. 69-32 223 St. 11364 In vitro Induction of Spore Cell Differentiation in Dictyostelium discoideum

Sprecher, Elliot Kevin 16 Benjamin N. Cardozo H.S. 57-02 224 St. 11364 Long Term Survival of Frozen and Thawed Rotifers

Zuckerman, Darryl Adam 17 Benjamin N. Cardozo H.S. 228-01 49 Rd. 11364 Effect of Long-Chain Quaternary Trimethylammonium Salts on the Pseudopodium Induction of Amoeba proteus

Borda, Owen Matthew 17 Brewster H.S. Blackberry Dr. 10509 General Characteristics of Beach Cusps on Second and Third Beaches Middletown, Rhode Island

Bronx	Paciuc, John 17 Horace Mann School 3777 Independence Ave., Riverdale Investigation of the Migration Inhibitory Factor in HeLa 10463
Brooklyn	Lossef, Steven Victor 17 Brooklyn Friends School 125-15 Cranston Ave., Reduction of Corrosion of Dental Amalgam 11694 Lander, Arthur Douglas 16 John Dewey H.S. 928 E. 58 St. 11234 Characteristics of Pigmented Mutant of <i>Salmonella typhimurium</i>
	Hershkowitz, Hal Edwin 16 Abraham Lincoln H.S. 115 Brightwater Ct. How Does Freundlich Adsorption Vary With Temperature? 11235
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Reznick, Alan Mark 16 South Shore H.S. 2224 E. 59 Pl. 11234 Investigations and Applications of Egyptian Fractions	
Tracer, Howard Leslie 17 Yeshivah of Flatbush H.S. 855 E. 19 St. 11230 Auxin Inactivation and Light	
Dix Hills	Aupperle, Kenneth Robert 17 Half Hollow Hills H.S. 24 Arrowwood Lane, Design and Construction of a Logic Calculator Melville 11748
Flushing	Gold, Alan Steven 16 John Bowe H.S. 137-75 Geranium Ave. 11355 Investigation of the Catalytic Qualities of an Enzyme Extract From Mushrooms
	Leibowitz, Michael Robert 17 Francis Lewis H.S. 198-23 51 Ave. 11365 A Low Cost Experimental Electronic Speech Recognition Design
Great Neck	Feldman, Daniel Elliot 17 North Sr. H.S. 97 Oxford Blvd. 11023 A More Efficient Method of Strategic Determination
	Brzustowicz, Michael Andrew 17 South Sr. H.S. 58 Executive Dr., New LEAST: A Computer Program for Hyde Park 11040 Generalized Curve Fitting
Huntington	Sakson, Stephanie Lee 17 John Glenn H.S. 51 Harley Ave., East Northport Study of the Relationship of <i>Pinnotheres maculatus</i> 11731 to <i>Mytilus edulis</i>
	Berlin, Edwin Paul, Jr. 17 Huntington H.S. Skunk Hollow Rd. 11743 A Microprogrammed General-Purpose Computer With Timesharing Capability
Jamaica	Chasen, Mark Alan 17 Jamaica H.S. 65-81 Parsons Blvd., Flushing 11365 Impact of a Visually Kinetic Environment Upon Ability to Function Analytically
	Edelstein, Lisa Robin 16 Jamaica H.S. 173-43 Croydon Rd. 11432 Attitudes Towards the Disabled as a Function of Exposure and Sex Differentiation
	Gittelman, Paul David 17 Jamaica H.S. 83-15 118 St., Kew Gardens 11415 Communications Network Simulation
	Grossman, Eric Scott 17 Jamaica H.S. 73-36 184 St., Flushing 11366 Relationship of Intelligence Potential and Adaptability Between Sinistral and Dextral Students of High School Age
	Horowitz, Steven Gary 17 Jamaica H.S. 168-18 71 Ave., Flushing 11365 Extended Precision Subroutines for Fortran
	Littenberg, Benjamin 16 Jamaica H.S. 73-08 Utopia Pkwy., Flushing 11366 Effects of Weather on Standardized Test Results
	Perry, Kenneth Jay 17 Jamaica H.S. 184-38 Radnor Rd. 11432 Optimization of Computer-Derived Trigonometric Functions
	Weiner, Bennett Martin 17 Jamaica H.S. 147-57 78th Ave., Flushing 11367 Visual Fields and the Perception of Words
Mamaroneck	Kaplan, Jonathan Harris 17 Mamaroneck H.S. 27 Pryer Manor Rd., Heats of Combustion of 2,4-Pentanedione Larchmont 10538 Compounds
New Hyde Park	Hofberg, Robert Joseph 17 Herricks H.S. 39 Shrubhollow Rd., Roslyn Artificial Intelligence and the Game of Dots 11576
New Rochelle	Rosen, Daniel Philip 17 New Rochelle H.S. 74 Melrose Dr. 10804 Role of Vanadium Compounds as Electron Donors for Photosystem I in Spinach Chloroplasts
New York	Shookoer, Jeffrey Hayes 16 Bentley School 510 E. 86 St. 10028 An N-Dimensional, Pseudo-Holographic Digital Filter
	Segal, Rosalind Anne 16 The Brearley School 130 E. 67 St. 10021 Characterization of a Cell Line Established From Hybrid Embryos
	Aboba, Bernard David 16 Bronx H.S. of Science 5800 Arlington Ave., Hagerstrand Simulation Model and the Bronx 10471 Control of Epidemics
	Alexander, Steven 17 Bronx H.S. of Science 148-08 61 Rd., Flushing 11367 A Generalization of Pascal's Triangle
	Birnbaum, Jeffrey William 16 Bronx H.S. of Science 120-30 DeKruif Pl., Determination of the Repeating Block and Other Bronx 10475 Characteristics of Fractions Expressed in Different Bases
	Edwards, Ralph B. 17 Bronx H.S. of Science 2440 Sedgwick Ave., Bronx Multiple Regression Analysis of Stock Prices in 10468 the United States
	Grayson, Alan Mark 16 Bronx H.S. of Science 640 Adey Ave., Apt. 9H Primes as Expressed in Different Bases 10467
	Kenner, Richard Barry 17 Bronx H.S. of Science 69-39 Yellowstone Blvd., An Optimizing and Error-Correcting Forest Hills 11375 PL/1 Compiler
	Lebowohl, Nathan Howard 16 Bronx H.S. of Science 310 W. 72 St. 10023 Effects of Various Agents on Pattern Formation in Suspensions of <i>Cryptothecodium cohi</i>
	Macris, Richard George 17 Bronx H.S. of Science 138-15 Franklin Ave., Effects of Varied Carbon Sources on the Growth Flushing 11355 Rate and Protein Content of <i>Cyanidium caldarium</i> Algae
	Miller, Craig Franklin 17 Bronx H.S. of Science 157-36 18 Ave., Whitestone Unemployment-Inflation Model With a Backbending 11357 Supply of Labor
	Rosenblatt, Barry Paul 17 Bronx H.S. of Science 53-07 207 St., Bayside Immunological Response of Male Cockroaches to 11364 <i>Tetrahymena pyriformis</i>
	Schprechman, Elliot David 17 Bronx H.S. of Science 3521 Dekalb Ave., Effect of Cobalt Gamma Radiation on DNA Bronx 10467
	Siu, Byron Bong 15 Bronx H.S. of Science 239 E. 197 St., Bronx 10458 Perfect Digital Invariants
	Lederman, Seth Michael 17 Franklin School 1349 Lexington Ave. 10028 Transformation, Dissociation and Control of Colonial Patterns in <i>B. cereus</i>
	Wysogrod, Barry Leonard 17 Ramaz School 522 West End Ave. 10024 Study of Sugar Transport in an Alkaliphilic Bacterium
	Garber, Eric Abraham 16 Stuyvesant H.S. 97-28 57 Ave. 11368 Effects of Different Environments on the Development of <i>Polygyracereolus</i>
	Rossakis, Constantine Gus 17 Stuyvesant H.S. 50-07 48 St. 11377 Effects of Catecholamines and Other Chemical Reagents on Nematocyst Discharge in <i>Hydra littoralis</i>
	Schenkein, David Paul 17 Stuyvesant H.S. 102-55 67 Dr., Forest Hills 11375 Kinetic Characteristics and Binding Site Studies on the Monomeric Form of Yeast Enolase
	Zakian, Michael Reuben 17 Stuyvesant H.S. 31-65 35 St., Astoria 11106 Effects of Mitomycin-C on T and B Lymphocytes
	Zeitz, Paul Andrew 16 Stuyvesant H.S. 103 Albemarle Rd., Brooklyn 11218 The Gamma Function as a Tool in Evaluating Certain Definite Integrals
	Garcia, Philip 18 Trinity School 8 Bethune St. 10014 Investigation of Non-Equilibrium Morphologies of a Eutectic Alloy
	Hartglass, Barry Lee 17 Yeshiva University H.S. 1933 Radcliff Ave. 10462 Holographic Approach to Interference Microscopy
Plainview	Scheinerman, Edward Michael 17 John F. Kennedy H.S. 1109 Round Swamp Gang Theory Rd., Old Bethpage 11804
Port Washington	Rubin, Peter Keith 17 Paul D. Schreiber H.S. 121 Radcliff Ave. 11050 Chemical Constituents of the Abdominal Region of Iowa City Ants
Queens Village	Kuntz, Richard Peter 17 Martin Van Buren H.S. 252-03 Elkmont Ave., Operating Characteristics of a Solid State Bellerose 11426 Thermal Engine Powered by Radiant Energy
	Mashioff, Helene Sue 17 Martin Van Buren H.S. 217-21 77 Ave., Bayside The Relationship Between Color Preferences and 11364 the Dominance-Submission Personality Trait

Rubin, Alan Leonard 17 Martin Van Buren H.S. 224-07 Manor Rd. 11427  
 Does the Reproduction of Cilia Depend on Cytoplasmic Inheritance?  
 Zimmerman, Thomas Guthrie 17 Martin Van Buren H.S. 218-15 Hartland  
 Directional Radiation Detector Ave., Flushing 11364

Rochester Lesser, Harold David 16 Brighton H.S. 45 Woodmont Rd. 14620  
 Computer Simulation and Statistical Analysis of Las Vegas Solitaire

Roslyn Newman, Kenneth Barry 17 Roslyn H.S. 34 Rockhill Rd. Roslyn Heights  
 Effect of Color Upon Recognition Threshold 11577

Syosset Eisenberg, Andrew Jay 17 Syosset H.S. 2 Candor Dr., Woodbury 11797  
 Design and Modification of Electronic Equipment and  
 Computer Programming for Analysis of the Human Brain's  
 Activities During Sleep

Watertown Bonadio, Allan Robert 17 Watertown H.S. 373 East Ave. 13601  
 Three Dimensional Perspective Simulation via Computerized  
 On Line Display

West Seneca Sala, Martin Augustus 17 West Seneca East Sr. H.S. 52 Rondelay Dr.,  
 Design and Construction of a Large Cheektowaga 14227  
 Scale Digital Computation System

#### NORTH CAROLINA

Raleigh Jones, Herman Stanley 17 Wake Christian Academy Route 2, Wendell 27591  
 Speech Synthesis  
 Vail, Beverly Barbee 17 Wake Christian Academy Route 1, Box 123,  
 Effect of Temperature Shock on the Garner 27529  
 Production of Pteridines in *Drosophila melanogaster*  
 and Detection by Paper Chromatography

#### NORTH DAKOTA

St. Thomas Heuchert, Joan Carol 17 St. Thomas Public H.S. St. Thomas 58276  
 Plant Growth and Hormone Distribution as Influenced by  
 Centripetal Force  
 Valley City Bhugra, Maninderpal Kaur 16 Valley City H.S. 1470 N. Central Ave. 58072  
 Investigations in Control of Dental Plaque  
 Williston Dominek, Allen Keith 17 Williston Sr. H.S. P.O. Box 212 58801  
 Effects of Voltage on the Sputtering Rate of Cu

#### OHIO

Berea Hill, Esther Laura 17 Berea H.S. 81 Manning Dr. 44017  
 A Possible Growth Inhibitor Produced in Light-Treated  
 Etiolated Soybeans  
 Cincinnati White, Alice Bonner 17 Mariemont H.S. 3711 Petoskey 45227  
 Calculation of Two-Dimensional Probabilities for Hydrogen  
 Atomic Orbitals and H<sub>2</sub> Molecular Orbitals From  
 Schrödinger Wave Functions  
 Columbus Kolarik, William Michael 17 Whitehall-Yearling H.S. 666 Ross Rd. 43213  
 Is the Low Temperature-Pressure Hydrogen-Oxygen Fuel Cell Practical?  
 Cuyahoga Falls Priebe, Alan R. 17 Cuyahoga Falls H.S. 1800 Silver Lake Ave. 44223  
 Calculation of Refractive Indices of Organic Liquids  
 Georgetown Mooney, Jon Wendell 17 Georgetown H.S. 205 E. North St. 45121  
 A Solid Waste Classification System Based Around the Air Classifier  
 Parma Heights Mucha, Michael Scott 17 Valley Forge H.S. 11187 Blossom Ave. 44130  
 Viscometric Properties of Polymer Resins in Dilute Solutions  
 Rocky River Putinski, Cynthia Lee 17 Magnificat H.S. 14230 Arlis Ave., Cleveland  
 Optical Rotatory Dispersion Spectrophotometry 44111  
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 Whittford, Kathleen Marie 17 Magnificat H.S. 15721 Stillwood, Cleveland  
 Experiments in Kirlian Electrophotography 44111  
 Shaker Heights Black, Keith Lanier 17 Shaker Heights Sr. H.S. 23403 McCann St.,  
 Discocyte-Echinocyte Warrensville Heights 44128  
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 Sidney Gusching, David Walter 18 Lehman H.S. R.R. 1 45365  
 Flat Plate Collector of Solar Energy

Solon Nilsson, Jack 17 Solon H.S. 6848 Green Ridge Ave. 44139  
 Differentiation and Integration of a Four-Dimensional System  
 Steubenville Hayslar, Cynthia Louise 17 Catholic Central H.S. 808 Buena Vista Blvd.  
 Calcium Oxalate Crystals 43952

Toledo Mariea, Lisa Jane 17 McAuley H.S. 3604 Beverly Dr. 43614  
 Effects of Specific Stimulant-Hormonal Mimetic Substance  
 on the Morphology and Mortality of *Aedes vexans*  
 Atkins, George Calvin, Jr. 18 St. John's H.S. 3309 Buckeye St. 43608  
 Study of the Metabolites of 5-Hydroxytryptamine in Mouse Lung  
 East, Thomas Delbert IV 18 St. John's H.S. 6041 Gillingham, Sylvania  
 The Use of Gallium Arsenide Lasers in Pulse 43560  
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 Moynihan, Humphrey Joseph 17 St. John's H.S. 3961 Woodhurst Dr. 43614  
 Comparison of An Optical Goniometer and a Goniometer  
 Incorporating a Laser  
 Stoffregen, Jayne Evie 18 St. Ursula Academy 916 W. Wayne St., Maumee  
 Effects of Sodium Salicylate, Serpasil Apresoline, 43537  
 Cedilanid-D and Lanoxin on the Chromosomes of Human  
 Lymphocytes *in vitro*

#### OKLAHOMA

Oklahoma City Nuckolls, Charles William 18 Heritage Hall School 6420 N.W. Grand Blvd.  
 Quantitation of Pyrophosphate, Phosphate, and 73116  
 Adenosine Triphosphate in 3T3 Mouse Fibroblasts  
 as a Function of Cell Density  
 Ponca City Behar, Kevin Lee 17 Ponca City Sr. H.S. 117 May Ave., R.R. 6 74601  
 Investigation of the Contractile Response of *S. coeruleus*  
 Through the Effects of ACh and ULF Impulses on  
 Membrane Permeability  
 Seminole Cummings, Sharon Kay 18 Seminole H.S. P.O. Box 1626 74868  
 The Isolation, Immunochemical, and Chemical  
 Characterizations of the Lipoprotein Fractions

#### OREGON

Beaverton Stipe, Gary Arthur 18 Sunset H.S. 11985 S.W. Lanewood, Portland 97225  
 LENSES: A Program to Aid in Optical Design  
 Bend Bailey, Kirk Alan 17 Bend Sr. H.S. P.O. Box 3187, Sun River 97701  
 Design and Construction of an Analog Speech Bandwidth  
 Compression System  
 Salem Batten, Bruce Loyd 16 Charles A. Sprague H.S. 1060 Luradel Ave. S.  
 Study of the Robertson Formation, Grant 97302  
 County, Oregon

#### PENNSYLVANIA

Allentown Scharle, Jane Marie 17 Central Catholic H.S. 2910 Gordon St. 18104  
 Qualitative and Microbiological Aspects of Freezing Foods  
 Ardmore Sanders, Charlene Gail 17 Lower Merion H.S. 360 Hidden River Rd.,  
 Sleep-Learning vs Day-Learning Narberth 19072  
 Shallit, Jeffrey Outlaw 17 Lower Merion H.S. 619 Greythorne Rd.,  
 Constructive Algorithms for High- Wynnewood 19096  
 Precision Arithmetic  
 Columbia Stehman, Stephen Victor 17 Columbia H.S. 740 Locust St. 17512  
 The Use of Algae as Indicators of Environmental Variables in Streams  
 Devon Goalwin, Patrick William 17 Devon Preparatory School 39 Greenlawn Rd.,  
 An Investigation of the Ribonucleases of Paoli 19301  
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 DuBois Hill, David Reed 17 DuBois Area H.S. 215 Hillcrest Dr. 15801  
 Identification of Striped Bass Races by Analysis of the  
 Circuli Spacing on the Scales  
 Ebensburg Furlong, Michael James 17 Bishop Carroll H.S. College Heights, Loretto  
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Hazelton Balliet, Marvin Joseph 17 Bishop Hafey H.S. 516 Winters Ave., West  
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Lititz Busch, Richard Munroe 17 Warwick Sr. H.S. 508 W. Marion St. 17543  
Odontochile curtinensis: A New Dalmanites Trilobite From the  
Oriskany Formation of Central Pennsylvania

Neffsville Leisawitz, David Todd 17 Manheim Twp. H.S. 48 Peach Lane, Lancaster  
Spectrophotometric Determination of the Temperature 17601  
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1-Propanol and Isopropanol by Chromic Acid

#### RHODE ISLAND

Cranston Bloom, Paul Michael 17 Cranston H.S. East 111 Roger Williams Cir. 02905  
Correspondence Between First Heart Sound Vibrations and the  
Rise of the Carotid Pulse Tracing

Newport Streeter, Harold Francis 18 Rogers H.S. 450 Broadway 02840  
Factors Affecting the Zonation of Codium fragile

#### SOUTH CAROLINA

Greenville Walmer, Mark Stephen 17 Bob Jones Academy 208 Melbourne Lane 29607  
End of Carbon Monoxide Pollution From Automobile Exhaust

Spartanburg Chag, Manoj Vrajjal 16 Spartanburg H.S. 180 S. Pine St. 29302  
Water Globulates That Float on Water

#### TENNESSEE

Waverly Dunsmore, Teresa June 17 Waverly Central H.S. 134 Circle Dr. 37185  
The Rates of Peak Elevation Days of Three Enzymes  
in Myocardial Infarctions

Edwards, Richard Everett, Jr. 17 Waverly Central H.S. 107 Wilmington Way  
Effects of an Electrostatic Field on the 37185  
Temperature of a Heated Body

Rawlings, Celia Lu Rae 17 Waverly Central H.S. Box 50, Rt. 1, Hurricane  
Effect of Acupuncture on the Production of Mills 37078  
Vanilmandelic Acid

Taylor, Terry Milton 18 Waverly Central H.S. Rt. 1, Box 98, Denver 37054  
Development of a Model MHD Generator and Effects of  
Electrostatic Fields on Its Performance

#### TEXAS

Fort Worth Lynch, Colleen Teresa 17 Western Hills H.S. R.R. 1, Box 174, Aledo 76008  
Production of Petroleum Products From Oil Shale

Houston Fasullo, Michael Thomas 17 Memorial Sr. H.S. 8808 Chatsworth 77024  
Mutagenic Effects of Activated 2-AAF

Port Neches Glaser, Thomas Mark 17 Memorial Sr. H.S. 12011 Homewood Lane 77024  
Effect of Temperature on the Growth and Viability of Escherichia coli

Young, Vicki Elizabeth 17 Port Neches-Groves H.S. 6320 Capitol, Groves  
Canine Serum Protein Values Established on the 77619  
Helena Zip-Zone Electrophoretic System

San Antonio Dones, Henry Cling 17 Keystone School 304 Ridgemont 78209  
Derivation of nth Derivative Formulas for Rational Functions

Schulenburg Krueger, James Glenn 18 Keystone School 10715 Lost Hilltop Lane 78230  
Effects of a Magnetic Field Upon Chromosome Aberrations in Drosophila

Meining, Richard Paul 17 Keystone School Rt. 1, Box 70, Marion 78124  
Gas Chromatography-Mass Spectrometry Analysis

Layton Deterling, Keith Alan 17 Schulenburg H.S. 204 South St. 78956  
Vertical Gradient of Gravity in a Tall Building

#### UTAH

Robinson, Dennis Eugene 17 Layton H.S. 3388A Yorktown, Hill A.F. Base  
 $pO_2$  Levels of Whole Blood and Fluorocarbon-Polyol 84406

Salt Lake City Grey, Gothard Carson 17 Olympus H.S. 1767 S. Woodside Dr. 84117  
Emulsions After Saturation With Oxygen and Carbon Monoxide

Aerodynamics and Geometry of Rocket Nozzles

#### VIRGINIA

Abingdon Mattson, Tom Brent 17 Abingdon H.S. Route 7 24210  
Study of Behavior and Cycle in Lithobius forficatus

Arlington Schwebs, Monica Astrid 18 Washington-Lee H.S. 2518 N. Quincy St. 22207  
Air Pollutants and Mortality in Washington, DC

Ashland Baldwin, Robert William 17 Yorktown H.S. 5412 N. 26 St. 22207  
Variations on The Tower of Hanoi

Bedford Hale, Robert Alan 17 Yorktown H.S. 2621 N. Lexington St. 22207  
Impact of Urbanization on the Climate of the Washington, DC Area

Bristol Clay, Hollis Anne 17 Patrick Henry H.S. 130 Hanover Ave. 23005  
Development of Marsilea vestita Gametophyte and Sporophyte in  
Concentrations of Lithium Carbonate

Fairfax Stairs, Paul Whitney 18 Patrick Henry H.S. Rt. 2, Box 234, Beaverdam  
Influence of Filtered Light on Gametophyte and 23015  
Sporophyte Development of Marsilea vestita

Floyd Johnson, Ivy Joy 17 Liberty H.S. 633 Baltimore Ave. 24523  
Search for New Substances for the Identification of Blood Antigens

Floyd Parker, Dennis Winston 17 John S. Battle H.S. Rt. 1 Parkwood Estates  
Genetic Effect of Zineb, Sevin, Violet-D and Para 24201  
Dichlorobenzene on Maize

Floyd Thomas, Julie William, Jr. 17 W.T. Woodson H.S. 3701 Prince William Dr.  
Oxidation of Hydrogen Chloride by Potassium Permanganate 22030

Floyd Tolbert, Ann Kay 17 Floyd County H.S. Star Route 24091  
Monarch Butterflies

Herndon Gordon, Gilad Shalag 17 Herndon H.S. 1448 Aldenham Lane, Reston 22090  
Changes in Eclipses as Effected by Solar Loss of Mass

McLean Thompson, Valerie Lynn 17 McLean H.S. 1807 Great Falls St. 22101  
Conserving the Ecological Balance of Coastal North Carolina

Midlothian Parchen, Kevin Douglas 18 Midlothian H.S. 11630 Edenberry Dr., Richmond  
Synthesis of Saigon Cinnamon Oil Using Gas 23235  
Chromatography and Mass Spectrometry

Portsmouth Laguta, Kathryn Jean 17 Churchland H.S. 4905 Manor Ave. 23703  
Circadian Biological Clock and Its Effect on Human Mental Efficiency

Springfield Swift, Terrance Lee 17 West Springfield H.S. 6127 Bardu Ave. 22152  
Effect of Metal Ions on the Kinetics of the Enzyme  
Acetyl Cholinesterase

Williamsburg Quittmeyer, Peter Charles 17 Walsingham Academy 210 Kingswood Dr.  
Experimental Analysis of Hemoglobin Disorders 23185

#### WASHINGTON

Bellevue Grotjahn, Douglas Bryan 17 Bellevue Sr. H.S. 3442 92 Ave. N.E. 98004  
Relationship Between a Sunspot's Distance From the Solar  
Equator and the Rotation Period Involved

Des Moines Chaffee, Thomas Morris 17 Mt. Rainier H.S. 20604 4 Ave. S.W., Seattle  
An Investigation Into the Structure and Composition 98166  
of Copper Sulfate

Lacey Clements, Robin Kim 18 Mt. Rainier H.S. 1605 S. 209, Seattle 98188  
Investigation of Composition and Structure of Potassium  
Chromium Sulfate

Renton Howse, Gary Alan 18 Timberline H.S. Rt. 12, Box 551, Olympia 98503  
Bacterial Resistance to Antibiotics: A Study Through the Use  
of Penicillin Detection in Milk

Richland Stewart, Brent Kevin 17 Hazen H.S. 1050 Shelton Ave. N.E. 98055  
Determination of the Electron's Cross Section Using  
Photoelectric and Particle Scattering Principles

Spokane Claudson, Robert Mark 17 Hanford H.S. 402 Sierra 99352  
Digital Simulation of River Plankton Population Dynamics

Tacoma Sidlow, William Karl 17 Joel E. Ferris H.S. Rt. 3, Box 775 99203  
Thyroxine and Propylthiouracil Induced Cardiac  
Alterations in the Daphnia

Tacoma Barnes, David Russell 18 Lewis and Clark H.S. S. 1303 Adams St. 99204  
Fluorocarbons and Cardiac Arrhythmias: A Possible Mg++ Link?

Tacoma Motteler, Frederick Clark 18 Washington H.S. 316 Tule Lake Rd. 98444  
Construction of a Small Digital Computer System

Walla Walla

Baim, Michael Allen 17 Walla Walla H.S. 1604 Howard 99362  
Proposed System for Containing Oil Spills With Polymer Foam

WISCONSIN

Brookfield

Herdeman, James Robert 17 Brookfield Central H.S. 12908 W. Graham St.,  
Functional Responses of Solar Cells in  
Respect to the Angle of Incidence and Illumination  
New Berlin 53151

Greendale

Damiani, Stephen Mario 17 Greendale H.S. 5907 Dawson Ct. 53129  
Selected Mound and Mesoamerican Motif Parallels

Wausau

Erdmann, Debra Sue 17 Wausau West H.S. 1601 Cherry St. 54401  
Effects of Sediment on Kaneohe poni

Wauwatosa

Sommerer, John Curtis 17 Wauwatosa West H.S. 545 N. 114 St. 53226  
Mapping the Color Sensitivity of the Human Eye

WYOMING

Cheyenne

Lowe, Thomas Allen 17 Cheyenne Central H.S. 720 Pike St. 82001  
Method for Identifying Igneous Rocks by Comparing Densities

Jamaica  
New York

Edelstein, Lisa Robin 16 Jamaica H.S. 173-43 Croydon Rd. 11432  
Miller, Craig Franklin 17 Bronx H.S. of Science 157-36 18 Ave.,  
Whitestone 11357  
Siu, Byron Bong 15 Bronx H.S. of Science 239 E. 197 St., Bronx 10458  
Zeitz, Paul Andrew 16 Stuyvesant H.S. 103 Albemarle Rd., Brooklyn 11218  
Garcia, Philip 18 Trinity School 8 Bethune St. 10014

Ponca City

Behar, Kevin Lee 17 Ponca City Sr. H.S. 117 May Ave. R.R. 6 74601

OREGON

Beaverton

Stipe, Gary Arthur 18 Sunset H.S. 11985 S.W. Lanewood, Portland 97225

PENNSYLVANIA

Ardmore

Sanders, Charlene Gail 17 Lower Merion H.S. 360 Hidden River Rd.,  
Narberth 19072

Lititz

Busch, Richard Munroe 17 Warwick Sr. H.S. 508 W. Marion St. 17543

VIRGINIA

Abingdon

Mattson, Tom Brent 17 Abingdon H.S. Rt. 7 24210

WASHINGTON

Richland

Claudson, Robert Mark 17 Hanford H.S. 402 Sierra 99352

WISCONSIN

Wausau

Erdmann, Debra Sue 17 Wausau West H.S. 1601 Cherry St. 54401



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FILE COPY  
*Washington Trip Winners*  
*of the*

*Thirty-fourth Annual Science Talent Search®*  
*for the Westinghouse Science Scholarships and Awards*

The forty Washington trip winners of the 34th Annual Science Talent Search, among whom \$67,500 of Westinghouse Science Scholarships and Awards will be distributed, represent about 7.8% of those who completed entries in this scientific and educational competition.

Designed to discover and develop scientific and engineering ability among high school seniors, the Science Talent Search is conducted annually for the Westinghouse Science Scholarships and Awards by Science Service, 1719 N Street, N.W., Washington, DC 20036.

Ten girls and 30 boys are being invited to Washington, DC, for an all-expense paid trip February 26 through March 3, 1975, to attend the Science Talent Institute. Here 10 winners will be selected by the board of judges to receive one of the following four year Westinghouse Science Scholarships: One \$10,000 (\$2,500 per year), two \$8,000 (\$2,000 per year), three \$6,000 (\$1,500 per year), four \$4,000 (\$1,000 per year). The remaining 30 contestants will be given Westinghouse Science Awards of \$250 each.

The trip winners are 15 to 18 years of age and come from 35 cities in 19 states. They were picked by the judges from among 14,321 contestants of whom 1,118 completed their entries by writing a report on their science project, submitting personal data and teacher recommendations. Completed entries were received from 49 states and the District of Columbia.

## Washington Trip Winners

HOME ADDRESS follows name of school

AGE of winner follows name

	<b>CALIFORNIA</b>
Alhambra	Fang, Meiling Laura 17 Alhambra H.S. 1401 Stonewell St., Monterey Park 91754
La Jolla	Marchak, Daniel Robert 17 La Jolla H.S. 430 Retaheim Way 92037
San Jose	Craig, Julia Ann 17 Leigh H.S. 15320 Blossom Hill Rd., Los Gatos 95030
Santa Barbara	Kikuchi, Derrick Thomas 16 San Marcos H.S. 3742 Brenner Dr. 93105
Santa Monica	Nagano, Christopher Dike 18 Santa Monica H.S. 931 Centinela Ave. 90403

	<b>FLORIDA</b>
Cocoa	Pillus, Loraine Alice 17 Cocoa H.S. 1046 Bellefonte Dr. 32922
Coral Gables	Albe, Kathy Reese 17 Coral Gables Sr. H.S. 1290 Mariola Ct. 33134
Titusville	Foch, Richard James 17 Astronaut H.S. 270 S. Christmas Hills Rd. 32780

	<b>GEORGIA</b>
Griffin	McKemie, Charles Edward 17 Griffin H.S. 1113 Zebulon Rd. 30223

### HAWAII

Aiea	Ching, Wendell Tuk Wing 17 Aiea H.S. 99-1242 Napuanani Rd. 96701
Honolulu	Zeitlin, Scott Olof 17 Kalani H.S. 5418 Opihi St. 96821

### ILLINOIS

Skokie	Dubin, Joel Ira 18 Niles Twp. West H.S. 5327 W. Crain St. 60076
	Kharasch, Evan David 17 Niles Twp. West H.S. 7043 N. Keeler Ave., Lincolnwood 60646

### IOWA

Bettendorf	Light, Robert Allan 17 Bettendorf H.S. 212 Bechtel Rd. 52722
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Lutcher	Brignac, Donald Veron 17 Lutcher H.S. 933 Second St. 70071
New Orleans	Sanderford, H. Britton 17 St. John Vianney Preparatory School 231 Beverly Dr., Metairie 70001

### LOUISIANA

Silver Spring	Marans, Jon Stephen 17 Springbrook H.S. 12120 Kerwood Rd. 20904
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### MASSACHUSETTS

Andover	Maranto, Anthony Rosario 17 Phillips Academy 1628 N. Parkside Ave., Chicago, Illinois 60639
Holden	Howard, Christopher Geurin 17 Wachusett Reg. H.S. Box 111, Brooks Station Rd., Princeton 01541
Taunton	Rounds, Joyce Diane 17 Taunton H.S. 235 Alfred Lord Blvd. 02780

### MICHIGAN

Detroit	Gover, Keith Bowen 17 Redford Union H.S. 15560 Meadowbrook 48239
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### MISSOURI

Palmyra	Logan, Julie Ann 17 Palmyra H.S. R.R. 1, Taylor 63471
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### NEW JERSEY

Ridgewood	Geller, Alan Stuart 16 Ridgewood H.S. 19 Garfield Pl. 07450
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### NEW YORK

Bayside	Heller, Howard Hamilton 16 Benjamin N. Cardozo H.S. 50-08 232 St., 11364
Brooklyn	Jacobson, Terry Allen 17 Benjamin N. Cardozo H.S. 46-20 216 St. 11361
Dix Hills	Lander, Arthur Douglas 16 John Dewey H.S. 928 E. 58 St. 11234
Huntington	Aupperle, Kenneth Robert 17 Half Hollow Hills H.S. 24 Arrowwood Lane, Melville 11746
	Sakson, Stephanie Lee 17 John Glenn H.S. 51 Harley Ave., East Northport 11731