

WEST VIRGINIA

Beckley Collins, Marshall Scott 17 Woodrow Wilson H.S. Box 203 25801
 Analyzing Atmospheric Refraction and Ionospheric
 Inhomogeneities at Differential Latitudes

Morgantown *Chen, Jane 18 Morgantown H.S. 1277 Dogwood Ave. 26505
 Comparative Study of Australopithecine Skull Casts

WISCONSIN

Racine Taggart, Timothy Joseph 18 Washington Park H.S. 2029 W. Lawn
 Life History and Monthly Larval Population Ave. 53405
 Studies of Chironomidae in Mound Cemetery
 Pond, Racine, Wisconsin

Sheboygan Brentrup, Robert John 17 Sheboygan South H.S. 439 Pioneer Rd.
 Synthesis of Some Alkyl 1, 3, 5 Hexatrienes 53061

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HONORS GROUP

IN

THE 32nd ANNUAL

Science Talent Search®

for the
**Westinghouse Science Scholarships
and Awards**

1973



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 science ability and interest 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 10, 1973, 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.

The proportion of boys and girls in this list is determined by the ratio of boys and girls entering the contest. Listed are 95 girls and 205 boys. Of the Honors Group 61.4% of the boys and 72.6% of the girls 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 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 has become an institution and tradition due to approval from the educational world 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 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-two Science Talent Searches by the Westinghouse Educational Foundation, an organization endowed by the Westinghouse Electric Corporation for the promotion of education and science.

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

FOR RELEASE: WEDNESDAY AFTERNOON, JANUARY 31, 1973

Honors Group

in the Thirty-second Annual Science Talent Search *

* indicates girls

H.S. indicates High School

AGE of winner follows name

Title of project report submitted is on next line

ALABAMA

Brewton	Cooper, Gregory Floyd 17 Miller H.S. <u>1318 Bonita Ave. 36426</u> Synthetic Adaptive Trial and Error Learning
Decatur	Davis, Jay Michael 19 Austin H.S. <u>Rt. 5, Box 60 35601</u> Meniscus Effect in Fuel Storage Tanks at Reduced or Zero Gravity
Huntsville	*Oliver, Lynn Olivia 17 Austin H.S. <u>505 Nell St., S.W. 35601</u> Effectiveness of Primers on the Electrochemical Process of Metals and Alloys Under Electrolysis
Winfield	Cotter, Gregory William 17 Virgil I. Grissom H.S. <u>1110 Drake Ave., S.E. 35802</u> Direct Thermoelectric Sterilization of Electroconductive Fluids and Its Practical Applications
	*Stalcup, Carol Frances 17 Winfield H.S. <u>P. O. Box 217 35594</u> Hybridization of <u>Portulaca grandiflora</u> Involving One Characteristic

ARIZONA

Phoenix	Smith, William Stewart 17 Trophy College Prep School <u>1610 Palmcroft Dr., S.W. 85007</u> Wave Mechanics in Two-Stroke Engine Exhaust Systems
Tucson	Reynolds, Stanley Dwight 17 East H.S. <u>2847 E. Flower St. 85016</u> Effects of Various Protective Agents on the Cryopreservation of Human Erythrocytes
	Demer, Joseph Louis 17 Salpointe H.S. <u>2902 N. Jackson Dr. 85719</u> Feasibility Study of Ionospheric Altitude Measurement by Radar

ARKANSAS

Bay	*Tice, Verona Ann 18 Bay H.S. <u>P. O. Box 625 72411</u> <u>In vitro</u> Studies to Determine Effects of Various Concentrations of Potassium Iodide on Selected Isolates of <u>Basidiobolus</u>
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CALIFORNIA

Berkeley	*Bergman, Madeleine Michele 15 Berkeley H.S. <u>29 Tanglewood Rd. 94705</u> Investigation of the Synthesis of Amino Acids on the Primitive Earth
	Portis, Jonathan Marc 17 Berkeley H.S. <u>2723 Marin Ave. 94708</u> Optical Rotatory Dispersion of Polysaccharides
Carmichael	Allgeier, Jeffrey Verne 17 La Sierra H.S. <u>4016 Marlow Ct. 95608</u> Use of Natural Sex Pheromones as Population Detectors for the Sugarbeet Armyworm

Castro Valley Corden, Barry B. 17 Canyon H.S. 5947 Highwood Rd. 94546
 Crystal Growth in Simulated Space Conditions
 Corning *Williams, Bonnie Bernice 17 Corning Union H.S. 1715 Putte St. 96021
 Algal Nutrients to Enrich the Family's Diet
 Cupertino Kaminski, Charles David 17 Cupertino H.S. 290 Manzanita Ave.,
 Experiences in the Design, Manufacture Santa Clara 95051
 and Use of a Six-Inch Reflecting Telescope
 Goleta *Markiewicz, Alison 17 Dos Pueblos H.S. 58 Mendocino Dr. 93017
 Ecological Manipulations of Acmaea Populations
 Inglewood *Rogers, Julianna Maria 17 St. Mary's Academy 553 3rd St.,
 Salinity Tolerance of Selected Manhattan Beach 90266
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 La Canada Schellenbach, Peter John 17 St. Francis H.S. 6635 Day St.,
 Experimental Studies of the Tujunga 91042
 Nutritional Requirements of Two Species
 of the Genus Pityrosporum
 Los Angeles Kwon, Peter Heejoon 17 Fairfax H.S. 1517 4th Ave. 90019
 Optimization of Brightness of an Electroluminescent
 Cell
 *Zack, Esther Leila 17 Alexander Hamilton H.S. 1778 S. Bedford
 Alkaline-Oxygen Pretreatment and St. 90035
 Pulping of Rye Straw Crown in the Willamette
 Valley, Oregon
 Gerald, Frank Steven 16 Hollywood H.S. 998 W. Kensington Rd.
 Selective Touchtone Service-Implementation 90026
 System
 Tan, Eng Huat 17 Hollywood H.S. 3333 Wonderview Dr. 90068
 Diversification in the Metabolic Fates of
 Plants When Subjected to Sound Waves
 Mihalovich, Gary Steven 17 University H.S. 1572 Kelton Ave.
 An Investigation of Solar Location on 90024
 Seagull Navigation
 Manhattan Beach *Muleady, Nancy Eileen 17 Mira Costa H.S. 665 17th St. 90266
 Application and Effects of Low Temperature on
 Amoeba proteus in Relation to Pinocytosis
 Marysville *Aseltine, Deborah Ann 17 Marysville H.S. W.S.P. 3350,
 Distribution of Olivella Forkestown 95041
 biplicata in the Mouth of the
 San Diego Bay
 Newbury Park *Feeds, Eileen Leslie 16 Newbury Park H.S. 863 Calle Compo,
 A Test of the Effects of Thousand Oaks 91300
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 on Length of Human Hair
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 An Investigation in Allelopathy
 Palo Alto Szeto, Ernest 18 Cuttlerley Sr. H.S. 2979 Waverley St. 94306
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 Duration Tone Under Masking Stimulus
 Redondo Beach Berg, Michael Christian 17 Aviation H.S. 1501 8th St.,
 Measure of a Plane Curve Manhattan Beach 90266
 Rosemead Zitzelberger, John Frances 18 Don Bosco Tech. Institute 13622
 Improving Slow Scan Cornuta Ave., Bellflower 90706
 Narrow Band Image Transmission Systems
 San Diego *Schechter, Janet 17 Clairemont H.S. 3638 Mount Abbey Ave.
 Biological Rhythms of Yeast in a 92111
 Controlled Environment

Greene, Glenn Joel 16 Crawford H.S. 5835 Paja Dr. 92115
 Fusion Containment Using Plasma Shock Waves
 Hill, Robert Lyndon 18 Crawford H.S. 1041 Johnson Ave. 92115
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 Xantusia henshawi
 *Vayo, June Anne 17 James Madison H.S. 4061 Mt. Barnard Ave.
 Mental Retardation and Eidetic 92111
 Imagery: A Correlative Study
 San Francisco Yu, Daniel Wang Tak 17 Galileo H.S. 1547-B Larkin St. 94109
 A Computer Demonstration of the Mechanism
 in the Belousov Oscillating Reaction
 Santa Barbara *Lewis, Terry Gay Eunice 17 San Marcos H.S. 5076 San Antero Pl.
 Are Methods of Sterilization of Anaesthesia 93111
 Equipment Effective Enough to Kill Pathogens
 Which Might Infect New Patients?
 Saratoga *Yamate, Carol Lynn Asa 17 Saratoga H.S. 13252 Glen Prae Dr.
 Young's Undulatory Theory of Light 95070
 via Water Waves
 Spring Valley Webster, Thomas Fredrik 18 Monte Vista H.S. 9600 Alto Dr.,
 What Conditions are Present La Mesa 92041
 in an Artificial Hurricane?
 Sunnyvale Coletti, Neil Boyd 18 Peterson H.S. 1056 Kildare Ave. 94087
 Characteristics of Underwater Radio
 Wave Propagation
 Thousand Oaks Henton, Donaby Hampton 17 Thousand Oaks H.S. 277 Somerset Cir.
 Some Properties of Cellular Automata 91360
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 Van Nuys Hirsch, Martin David 17 Ulysses S. Grant H.S. 6038 Allott Ave.
 A Theorem on Additive Series 91401
 Megdal, Barry Bruce 17 Ulysses S. Grant H.S. 13559 Haynes St.
 The Function $X^Y = Y^X$ 91401

COLORADO

Denver *Paker, Kim Lynn 17 North H.S. 3728 Raleigh St. 80212
 Functions of Putrescine in Phage Infected
 Escherichia Coli K
 Fort Collins Srivastava, Arvind Narain 16 Poudre H.S. 1318 Hillside Dr.
 On the Nature of a Finite Cosmology 80521
 Littleton Allen, Stephen Michael 17 Littleton H.S. 5017 S. Keenland Ct.,
 Effects of Heat and Light on Englewood 80110
 the Growth of Calcium Tartrate Crystals
 Longmont Smith, Timothy Robert 17 Longmont Sr. H.S. 9791 Schlagel St.
 Carbon Dioxide Dissolvability in Water 80501
 With Reference to the Activity of Carbonic
 Anhydride
 Westminster Schaffner, William Neal 17 Westminster H.S. 3941 W. 78th Way
 Cellular Automata Configuration Theory 80030

CONNECTICUT

Avon Meier, William Stryker 17 Avon H.S. 108 Wellington Hts. Rd.
 Isolation and Purification of an Enzyme 06001
 Exuded by a Bacteria That is Capable of
 Lysing Blue-Green Algae
 Southington Fallon, Irving Wayne Edison 17 Southington H.S. 51 Robin Dale
 Laboratory Investigations Terr., Plantsville 06479
 of Bacillus thuringiensis Berliner as a Biological
 Control Agent of the Gypsy Moth

- DELAWARE
- Greenville Fuller, Frank Hudson 16 Alexis I. duPont H.S. 2 Hedgerow Pl.,
A New Value for the "Limiting Speed" and Its Implications Wilmington 19807
- DISTRICT OF COLUMBIA
- Washington Rubin, Karl Cooper 17 Woodrow Wilson H.S. 3308 McKinley St., N.W.
Arithmetic Progressions in Sequences of Integers 20015
- FLORIDA
- Fort Lauderdale Foster, James Eric 17 Nova H.S. 3444 Buchanan St., Hollywood
A Study of Positive Integers With Positive Integral Powers 33021
- Manes, Michael Elliot 17 Nova H.S. 8320 N.W. 18th St., Pembroke
An Application of Individualized Contingencies and Management to the Behavioral Process of Motivation Pines 33024
- *Pulter, Sandra Lynn 17 Nova H.S. 1415 Diplomat Pkwy.,
Simplification of Character Recognition by Use of Square Matrices Hollywood 33020
- Minter, John Russell 17 Terry Parker H.S. 7049 Eaton Ave. 32211
The Bonding in the Nd(III) and Ho(III) Aminopolycarboxylate Chelates
- *White, Susan Anne 17 Terry Parker H.S. 3501 Townsend Blvd.,
Crown Galls and Area of Inoculation Apt. 164 32211
- *Miller, Laureen Priscilla 17 William M. Raines H.S. 5527 Vernon
Sizes and Weights of Fish Caught by the Prehistoric (Archaic) People of the Fig Island Shell Ring
- Miami Scholl, Dennis 17 Miami Norland Sr. H.S. 18703 N.W. 10th Rd.
Effects of Thermal Effluent on Thalassia testudinum in the Vicinity of Turkey Point, Biscayne Bay, Florida
- Sackstein, Robert 16 Southwest Miami Sr. H.S. 5360 S.W. 87th
Changes of Plasma Penin Activity Resulting From a Pedistribution of Blood Volume in Response to Variations in the Force of Gravity
- McEachron, James Frank 17 Rockledge H.S. 1326 Royal Birkdale
Relative Seed Performance Characteristics in an MHD Generator
- Satellite Beach Rosequist, Robert Bruce 18 Satellite H.S. 507 Eleuthera Lane,
Effect of Cryogenic Temperatures on Biological Systems Indian Harbour 32937
- Winter Park Dreves, Richard Arthur 18 Winter Park H.S. 2414 Summerfield Rd.
Archaeological Investigation of 8-or-17: An Early Aboriginal Campsite on the Shore of Lake Apopka, Florida
- GEORGIA
- Atlanta *Griffin, Judy Lynn 17 Briarcliff H.S. 2147 Arlington Ave., N.E.
Dimethylsilyloxime as a Selective Reagent for Spectrophotometric Determination of Trace Concentrations of Nickel in Environmental Samples 30324
- Playdes, Franklin Gerard 17 St. Joseph H.S. 2714 Waleska Way, East Point 30344
- CHAMBLEE
- Cornelia Kraul, Douglas Robert 17 Peachtree H.S. 4373 Ashwoody Trail, Atlanta 30319
Design and Manufacture of Fluidic Logic Components and Their Use in a Digital Computer
- Nash, Kenneth Earl 17 Habersham Central H.S. Rt. 3, A Stratigraphic Study of the Rheita Quadrangle Using Lunar Orbiter Photographs Clarkesville 30523
- Leslie *Kearse, Yvonne 17 Union H.S. Rt. 1, Box 78, Desoto 31743
Experimenting With Natural Dyes
- HAWAII
- Aiea Hamilton, John Carl 17 Aiea H.S. 12 Honu St. 96701
Spectrography of Selected Extra-Galactic Objects
- Higuchi, Darryl Akio 17 Aiea H.S. 99-414 Uhaloa St. 96701
Interaction of Ions in Relation to Metabolism During K+ Uptake for Stomatal Movement in E. diagremontianum and V. faba
- Ishioka, Glenn Yoshihiro 17 Aiea H.S. 99-433 Uwau Dr. 96701
Endocrine Involvement in Chromatophore Responses and Osmoregulation of Ocydope cordimana
- Kaichi, Aaron Satoru 17 Aiea H.S. 98-399 Ponohana Loop 96701
Humoral and Cellular Immunological Behavior of Multiple Sclerosis
- Kawahara, Rodney Susumu 18 Aiea H.S. 98-136 Hekaha St. 96701
Factors Involved in Sex Determination of Moina macrocopa Straus
- Okita, Keith Minoru 17 Aiea H.S. 99-602 Kaulainahee Pl. 96701
Isolation of Placental Trophoblast Antigen
- ILLINOIS
- Barry Rodriguez, Bradford Jay 14 Parry H.S. 1300 Pratt 62312
Mathematical Analysis of Periodic Waveforms
- Chicago *Jones, Blanche Elizabeth 17 Kenwood H.S. 1201 E. Madison Park
Permanent Relaxers and Hair Breakage
- *Brozek, Diane Louise 17 Lourdes H.S. 4111 W. 57th Pl. 60629
A Comparative Study of Chlorophyll Retention in Bean and Radish Leaves
- *Duider, Rosemary 17 Lourdes H.S. 5631 S. Hermitage Ave. 60636
Earthworms: Can They Remember?
- Stern, James Max 17 Mather H.S. 2922 W. Chase 60645
Geometrical Constructions With a Tool Other Than the Compass and Straightedge
- *Wengel, Elizabeth Mary 17 Carl Schurz H.S. 2627 N. California Ave. 60647
Anaerobic Breakdown of Sugars in Saccharomyces cerevisiae and Saccharomyces ellipsoideus
- Dowmers Grove Blazek, Michael Allen 17 Downers Grove South H.S. 6433 Dean Dr.,
A Characteristic Study of Solar Granulations
- Highland Park Vogel, Robert Alan 17 Highland Park H.S. 437 Woodland Rd.
N-Dimensional Conic Sections
- LaGrange Kahl, Tracy Jon 17 Lyons Twp. H.S. 704 Courtland Cir., Western Springs 60558
Electro-Optical Light Cells
- Lake Forest *Everds, Nancy Ellen 17 Lake Forest H.S. 1200 N. Sheridan Rd.
A Biological Rhythm in the Phototactic Response of Uca pugilator Zoae 60045

Park Ridge Passen, Edward Lyle 17 Maine Twp. H.S. East 9314 N. Osceola
Effect of Phosphate and Ave., Morton Grove 60053
No-phosphate Detergents on the Growth
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Skokie Pollack, Ira Adam 16 Yeshiva H.S. 2844 W. Coyle Ave., Chicago
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Weiss, Aryeh Moshe 16 Yeshivah H.S. 3848 W. Kirk St. 60076
Determining the Rate Equation of the
Oxidation of Isopropyl Alcohol by Chromic Acid

Springfield *Ford, Patricia Ann 16 Sacred Heart Academy 2329 Eastview Dr.
Polygon Games 62702

INDIANA

Bloomington *Peterson, Laryn Ann 17 Bloomington H.S. South 2200 E.
Retention of Spatial Images Maxwell Lane 47401

Evansville *Zygmunt, Deborah Jane 17 Central H.S. 7729 Meadowview Dr.
Inhibition of the Enzyme Acetylcholinesterase 47710
in Various Body Segments During Symptoms of
Organophosphorus Poisoning in the Cockroach

Lebanon Marchal, Jeffrey Kent 17 North H.S. 1816 N. St. James Blvd.
Systematic Identification of Organic 47711
Pollutants in a Municipal Water System

South Bend *Walker, Vickie Elaine 17 Lebanon Sr. H.S. 1009 N. Meridian
The Fibonacci Sequence St. 46052

*Hogan, Mary Ellen 17 St. Joseph's H.S. 1707 Portage Ave.
Effects of Competition and Chemically 46616
Induced Environmental Change on Soil
Bacteria Growth

IOWA

Bettendorf Schaefer, Craig James 17 Bettendorf H.S. 2816 Middle Rd.
Schlierenography: A Study in 52722
Applied Optics

Maquoketa Waite, Gordon Lee 17 Maquoketa Sr. H.S. R. P. #5, Pershing
Development of a Solar Observatory Rd. 52060

KANSAS

Concordia *Koehn, Daryl 17 Concordia H.S. 316 W. 15th 66901
Effects of Temperature Upon the K_a of
Select Triprotic Acids

Manhattan Morin, Terrence Joseph 17 Luckey H.S. 405 Warner Park Rd.
Effect of Gamma Radiation on Membrane 66502
Permeability and Plant Development of Raphanus
sativus in Magnesium Deficient Sand Culture

Shawnee Mission Goldman, William Mark 17 Shawnee Mission East H.S. 5734
Group Ring of the Group of Windsor Dr., Mission 66205
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Wamego Cuth, Daniel Paul 17 Wamego H.S. R. P. #1 66547
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KENTUCKY

Grayson Lewis, Charles Ollen 17 East Carter Co. H.S. R. P. #4, Box 92
A Detailed Study of Electronics and a 41143
Complete Demonstration Model Illustrating
Six Major Uses of Electronics Today

LOUISIANA

Bonita Armstrong, James Henry 17 Bonita H.S. Rt. 1, Box 5, Jones
Effect of Radiation on the Growth and 71250
Structure of Crystals and X-Ray Diffractions

Lafayette *Dupont, Karen Theresa 17 Comeaux H.S. Rt. 1, Box 258 JC
Growth Variations Through the Use of 70501
Gall-Extract on Herbaceous Plants

Fields, Christopher Albert 17 Lafayette H.S. 708 Alonda Dr.
A New Model of the Psyche Leading to a 70501
Consistent Theory of Physical and
Psychological Phenomena

Metairie Owsley, Henry Furlow III 17 Metairie Park Country Day School 20
Computer Logic and Digital and Pelham Dr. 70005
Analog Design

Shreveport Kinch, Richard John 16 Southwood H.S. 2026 Holly Oak Dr. 71108
Symbolically Programmed Digital Simulator

MAINE

South Paris *Sutton, Margaret Louise 17 Oxford Hills H.S. 56 Western Ave.
Ciliastatic Components of Cigarette Smoke 04281

MARYLAND

Baltimore Kernan, Donald 17 Pikesville Sr. H.S. 2404 Hunt Dr. 21209
Can Eutrophication Caused by Organic Wastes
be Controlled by the Use of Rotifers and Daphnia?

Gaithersburg Weinert, Michael Theodor Alfred 16 Gaithersburg H.S. 10521
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Rockville Roth, Stanley Allen 17 Robert E. Peary H.S. 13403 Dauphine St.,
Gamma Ray Induced Electrical Silver Spring 20906
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Towson *Mihok, Paula Anne 17 Towson Catholic H.S. 10 Hillary Way,
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MASSACHUSETTS

Andover Louie, Alan Kuo-Hin 17 Phillips Academy 1438 N. Dearborn,
Development of Creative Chicago, Illinois 60610
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Chelmsford Silverman, Robert David 18 Chelmsford H.S. 5 Eldorado Rd.
Correlation of X-Ray Induced Ions in the 01824
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Holden Fish, David Arthur 17 Wachusett Reg. H.S. 31 Lowell Ave. 01520
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Fogg, Stephen Lester 17 Wachusett Reg. H.S. 43 Homestead Rd.
Drugs and Stimulants Affecting Heart Beat 01520
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Lexington Schatzki, Theodore Richard 17 Lexington H.S. 49 Baskin Rd.
Susceptibility of Drosophila Alleles 02173
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Smart, Peter Raymond 17 Lexington H.S. 58 Oak St. 02173
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Newton *Tighe, Stacey Ann 17 Newton South H.S. 1629 Centre St., Newton
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Newtonville *Kendall, Debra Ann 17 Newton H.S. 110 Hawthorne Ave.,
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 Worcester *Hawthorne, Mary Rose 17 Burncoat Sr. H.S. 92 Greenwood St.
 A Comparative Study of Plant Callus 01607
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MICHIGAN

Ann Arbor Suits, Bryan H. 18 Huron H.S. 2619 Essex Rd. 48104
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 Schleicher, David Glenn 18 Pioneer H.S. 1441 Greenview Dr.
 Loose Clusters: Do They Exist? 48103
 Detroit Harden, Gary Martin 18 Catholic Central H.S. 14008 Marion St.
 Peptide Synthesis and Analysis: Bovine 48239
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 Livonia *Young, Valerie Lynn 18 George M. Bentley H.S. 30425 Hoy St.
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 *Pawlak, Anne Magdalen 17 Ladywood H.S. 5686 Lumley St. 48210
 Genetics and Separation of Pteridines in
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 Shepherd Bohn, Paul William 17 Shepherd H.S. 419 East Dr. 48883
 Column Efficiency of the Distillation Apparatus
 as Measured by Two Parameters

MINNESOTA

Bagley *Reeber, Larke Elizabeth 17 Bagley H.S. 416 N. Red Lake Ave.
 Effect of Environmental Changes on 56621
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 Hopkins Belmont, James Allan 17 Blake School 3216 36th Ave., N.E.
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 Minneapolis *Adams, Christine Marie 17 Regina H.S. 5719 14th Ave., South
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 Lake Nokomis, Minnesota
 Tracy Galstad, James Paul 17 Tracy H.S. R.R. #1, Box 95, Currie
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 Virginia Dombeck, Thomas John 18 Roosevelt H.S. 518 N. 13th St. 55792
 A Conclusive Study on Conical Rocket Stabilization

MISSISSIPPI

Starkville *Scott, Susan Elaine 17 Starkville H.S. 2400 Maple Dr. 39759
 Inhibitions of Zea Mays Root Growth by a
 Toxin Produced by Fusarium moniliforme

MISSOURI

Arnold Kirkpatrick, Rodman Kemps 18 Fox H.S. Rt. 3, Box 206, Imperial
 Effects of Magnetism on Field Plants 63052
 Kansas City *Raymond, Anne Louise 17 Notre Dame de Sion H.S. 7220 Hullwood
 Origin of the Phosphatic Nodules of 64133
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 St. Louis Barreau, Mark Alan 16 St. Louis Priory School 832 Arliege Dr.
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MONTANA

Malta Smith, Michael Allen 18 Malta H.S. 540 S. 3rd Ave., East
 Fossils and Prehistoric Environments 59538

NEBRASKA

Minden Schneider, Donald Patrick 17 Minden H.S. Box 75, Heartwell
 Mass Ratio of Jupiter to Earth 68945
 Omaha *Hanson, Linda Lou 17 Northwest H.S. 12505 N. 84th St. 68122
 Paradoxes
 *Koperski, Judith Ann 18 Omaha Central H.S. 1929 S. 35th Ave.
 Investigation of the Energy Loss in a 68105
 Polling Inelastic Collision
 *Guenther, Peggy Jane 17 Central Catholic H.S. R.R. #1,
 Pteridines in the Eye Pigments Bancroft 68004
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NEVADA

Ely *Banghart, Denise Marie 17 White Pine County H.S. 780 Ave. K.
 Effects of Sulfur Dioxide in the East Ely 89312
 Air North of McGill, Nevada

NEW HAMPSHIRE

Dover Milliken, Walter Clark 17 Dover H.S. 8 Evans Dr. 03820
 A Planetarium Peripheral Panorama Projector
 Control System

NEW JERSEY

Cranford *Koenig, Sandra Jean 17 Cranford Sr. H.S. 228 Hillside Ave.
 Effectiveness of Catalase in Varying 07016
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 Metuchen Barry, Michael Thomas 17 St. Joseph's H.S. 5171 Custer St.,
 Correlations Between Vertebrate Piscataway 08854
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 Perth Amboy *Zupko, Karin Gay 17 Perth Amboy H.S. 773 Barry Ave. 08861
 Aeration: The Key to Hydroponics
 Red Bank Roubik, Anthony Victor 17 Red Bank Reg. H.S. 6 Holly Dr.
 Chemical and Bacterial Analyses Little Silver 07739
 of Northern New Jersey Coastal Waters
 Springfield Johmann, Kurt Reynolds 17 Gov. Livingston Reg. H.S. 49 Hampton
 Proof of the Continuum Dr., Berkeley Heights 07922
 Hypothesis
 Union *Kampf, Laurie Lynn 18 Union H.S. 631 Colonial Arms Rd. 07083
 Effects of Gamma Radiation on Onion Root-Tip Cells

NEW MEXICO

Los Alamos *Lindsay, Cindy Phillips 16 Los Alamos H.S. 921 Tewa Loop
 Alpha Rhythms of Teen Age Males and Voluntary 87544
 Heart Rate Variation and Its Correlations
 to Alpha Brain Waves
 Seagrave, Charles Gordon 17 Los Alamos H.S. 3514 Arizona Ave.
 A Study of the "Striation" Phenomenon in Exploding Conductors Utilizing Direct
 Vapor Deposit Recording

NEW YORK

- Ardsley Lessin, Robert Howard 17 Ardsley H.S. 13⁴ North Field Ave.¹
 Automatic Speech Recognition Dobbs Ferry 10522
- Baldwin Lipshutz, Robert Jay 18 Baldwin Sr. H.S. 109 Maryland Ave.²
 Counting Leftist Trees Freeport 11520
- Bayside Schnall, Martin Edward 18 Bayside H.S. 7-24 160 St., Beechhurst
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- Boston Boston, Andrew Gould 16 Benjamin N. Cardozo H.S. 250-17 Rushmore
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 Inhibition of Germination and Growth of
 Lettuce by Aqueous Extracts of Various Lichen Species
- Fogel, Eric Martin 17 Benjamin N. Cardozo H.S. 216-10 47 Ave.
 Effect of Ketones on the Homeostatic 11361
 Mechanisms of Paramecium aurelia
- *Voutsas, Andrea Kay 16 Benjamin N. Cardozo H.S. 57-51 225 St.
 Effects of Heavy Metals on the Spore 11364
 Germination of Agaricus campestris
- Wolff, Jon Asher 16 Benjamin N. Cardozo H.S. 69-40 229 St. 11364
 Geotoxic Behavior of Drosophila melanogaster Populations
- Bellmore Sussman, Robert 17 Wellington C. Mepham H.S. 940 Lawrence Ct.,
 Effects of Potassium Gibberellate North Bellmore 11710
 on the Growth and Development of
 Dwarf Pea Plants
- Brooklyn Katz, Sheldon Harley 16 Brooklyn Technical H.S. 30 Stryker Ct.
 Combinatorialized Polynomials 11223
 Pratin, Karl 17 Lafayette H.S. 1633 E. 2nd St. 11230
 Aromatic Aldehydes
- Wedeen, Van Jay 16 Midwood H.S. 116 Buckingham Rd. 11226
 A Model of Field Dynamics
- Salvatore, Robert Francis 17 Franklin D. Roosevelt H.S. 215
 Oxygen Consumption as a Function of Ave. F 11218
 Salinity in Hermit Crabs
- *Vastano, Susanne 17 Franklin D. Roosevelt H.S. 1561-45 St.
 Study of the Physical Environment of 11219
 Goose Neck Cove With Regard to Tides,
 Currents, Temperature and Salinity
- Canisteo Hale, Martin Duane 17 Canisteo H.S. 98 Maple St. 14823
 An Analysis of the 1972 Perseid Meteor Shower
- Elmont Leopold, Kenneth Richard 17 Elmont Memorial H.S. 1623 Empire St.
 A Study on the Oscillatory Behavior of the 11003
 Cerium(III) Ion Catalyzed Oxidation of
 Malonic Acid by the Bromate Ion
- Flushing Levin, Alan Ross 17 Elmont Memorial H.S. 48 Georgia St., Valley
 Simulation of the Ecosystem of Stream 11580
 Nairobi Park in Kenya
- Noto, James Van 18 Elmont Memorial H.S. 152 Emily Ave. 11003
 A Heuristic Approach to Programming Tic-Tac-Toe
- Coburn, Barry 16 John Bowne H.S. 137-01 63 Ave. 11367
 The Detection of a Possibly New Magnesium Compound
- Chaconas, Paul 17 Francis Lewis H.S. 49-26 166 St. 11365
 Preferential Inhibition of Bacterial Protein Synthesis
- Orlansky, Abbe Aaron 17 Francis Lewis H.S. 57-16 156 St. 11355
 Effect of Dextranase and Penicillin on
 Dental Plaque Grown *in vitro*
- Selss, Ira Frank 17 Francis Lewis H.S. 192-24 B 64 Cir. 11365
 Comparison of the Incorporation of Histidine
 and B-Alanine With Respect to the Protein and
 Regeneration Gradients of Dugesia tigrina
- Forest Hills Silver, Andrew Dean 17 Francis Lewis H.S. 6700 - 192 St.,
 Luminescent Mineral Variables Fresh Meadows 11365
 Due to Microbial Activity and the
 Geomicrobial Recovery of Metals from
 Low Grade Luminescent Ore
- Great Neck Rosenbaum, Thomas Felix 17 Forest Hills H.S. 72-44 Ingram
 The Structure of Atmospheric Small Ions St. 11375
- Irvington Tatevossian, Leon Hrand 17 Forest Hills H.S. 70-11 Harrow
 Spokes and Propellers St. 11375
- Weinberg, Jed Jacob 17 Forest Hills H.S. 76-35 113 St.
 Comparative Physical Properties of 11375
 Immunoglobulins From Normal and
 Neoplastic Human Sera
- Jamaica Frankel, James Lowell 17 North Sr. H.S. 4 Chestnut Dr.
 Two Approaches to Computer Compiler Design 11021
 Jacobs, Derek Alan 17 Irvington H.S. Hendrick North 10533
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 a Total Solar Eclipse
- Merrick Finegold, Jonathan Elihu 16 Jamaica H.S. 86-75 Midland Pkwy.
 Comparison of Pupil Self-Ratings and 11432
 Teacher Ratings in Ability Grouped Classes
- New Rochelle Kagel, Art Stevan 17 Jamaica H.S. 150-40 71 Ave., Flushing
 Excursions into Pythagorean Theorem 11367
- New York *Kronenberg, Amy 17 Jamaica H.S. 71-50 Parsons Blvd.,
 Effect of Increased Temperature Flushing 11365
 on Zooplankton in the Waters Adjacent
 to the Site of the Shoreham Nuclear Power Plant
- *Satel, Sally Louise 17 Jamaica H.S. 139-06 Pershing
 Is There a Correlation Between Crescent 11435
 the Quality of Television Viewed
 and English Proficiency?
- Sevitsky, Gary Seth 16 Jamaica H.S. 81-43 189 St. 11423
 List Processing vs. Parallel Processing
 in Short-term Memory
- *Stern, Penny Maureen 16 Jamaica H.S. 73-30 173 St.,
 What Factors Influence Hand Dominance? Flushing 11366
- *Sutanto, Djuwita Marika 17 Jamaica H.S. 85-04 151 St.
 Factors Influencing the Development 11432
 of Psychosomatic Disturbances
- Strom, Stephen Arthur 17 Sanford H. Calhoun H.S. 208 E.
 A Study of the Structures of Camp Ave. 11566
 Metallic Crystals and the Relation to
 Their Mechanical and Electrical Properties
- Vecchiolla, Thomas Anthony 17 Salesian H.S. 50 Clinton St.,
 Effects of Sublethal Port Chester 10573
 Concentrations of Mercury on Biological
 Rhythms in the Fiddler Crab
- *Boccio, Donalisa Victoria 16 Bronx H.S. of Science 1777
 A Study of the Fibonacci Monroe Ave. 10457
 Numbers Using the Euclidean
 Algorithm
- Cartselos, Theodore 17 Bronx H.S. of Science 33-28 28 St.,
 Quantum, Gravitational and Astoria 11106
 Relativistic Considerations of the
 Ultimate Gravitational Singularity of
 the Universe

*Chertoff, Jocelyn Deborah 17 Bronx H.S. of Science 390
 An Analysis of Logical and Riverside Dr. 10025
 Illogical Sequences in Lewis Carroll's
 "Alice in Wonderland and Through the
 Looking Glass"
 Climan, Sanford Ross 16 Bronx H.S. of Science 3335 Gunther
 Nth-ic Residues Ave. 10469
 *Factor, Pam Ruth 17 Bronx H.S. of Science 25-18 Union St.,
 Solutions to Modular Equations to Flushing 11354
 the Second and Third Degrees
 Fifer, Robert Mark 16 Bronx H.S. of Science 90-59 56 Ave.,
 On the Partition of a Triangle Into Elmhurst 11373
 Two Triangles Each Containing a Pair
 of Angles in the Same Ratio
 Hirschman, Robert Steven 17 Bronx H.S. of Science 50-34
 Induction of 204 St., Bayside 11364
 B-Galactosidase in
 Escherichia coli Strain K-12
 Homma, Shunichi 18 Bronx H.S. of Science 4555 Henry Hudson
 Alternating Moduli Pkwy., Riverdale 10471
 Lehmann, Harold Philip 17 Bronx H.S. of Science 473 West
 Tangential Pursuit End Ave. 10024
 Rubin, Joshua L. 16 Bronx H.S. of Science 41-42 42 St.,
 Derivatives of Long Island City 11104
 Non-Integral Order
 Sun, Kenneth C. 17 Bronx H.S. of Science 2865 Kingsbridge
 Theorems and Conjectures on the Terr. 10463
 Frequency of Occurrence of
 Quadratic Residues
 Treatman, David 16 Bronx H.S. of Science 120-16 DeKruif Pl.
 Symbolic Logic Proofs by Computer 10475
 *Udell, Debra Melanie 16 Bronx H.S. of Science 3214
 Effects of White Light on Kingsbridge Ave. 10463
 Azotobacter vinelandii 12837
 Following Inactivation by Ultraviolet
 and Gamma Radiation
 Vitta, James Paul 17 Bronx H.S. of Science 819 E. 226 St.
 Media Education: Is there a 10466
 Scientific Basis?
 *Wajrgurt, Clara 17 Bronx H.S. of Science 5932 Liebig Ave.
 The Relative Occurrences of Twin 10471
 Primes in Any Number System
 Wisnicki, Herbert Jay 16 Bronx H.S. of Science 443 W. 263
 A Computer Algorithm for Proving St. 10471
 Trigonometric Identities
 *Bechtold, Jill Eleanor 18 Hunter College H.S. 67-40 164
 Finite Projective Geometries St., Flushing 11365
 and Abelian Groups
 Burstein, Daniel Nathan 17 Ramaz School 111-28 75 Rd.,
 Biological Degradation of Oils Forest Hills 11375
 Moser, Franklin George 17 Stuyvesant H.S. 135 Eastern Pkwy.,
 Investigation of the Giemsa Brooklyn 11238
 Method of Obtaining Specifically
 Banded Human Chromosomes
 Slepian, Marvin Jacob 17 Stuyvesant H.S. 824 Linden Blvd.,
 Bacteriophage T5 Pseudovirions Brooklyn 11203

Murphy, Walter Vincent III 18 Xavier H.S. 300 Carnation Ave.,
 Microprogrammable Memory Cross Floral Park 11001
 Switching System for Reducing Processor Interrupts
 Gross, Marc Michael 16 Oceanside H.S. 2901 Sylvan Ct. 11572
 Regress and Symmetry
 Oceanside
 Queens Village
 Fechter, Robert Jason 16 Martin Van Buren H.S. 82-45 250 St.,
 Effect of Heat Cycling on the Bellerose 11426
 Efficiency of the Photochromic Mechanism
 Giebfried, Joseph William 17 Martin Van Buren H.S. 90-08 216
 Effect of Hg⁺⁺ on ATP Dependent St. 11428
 Transport in the Erythrocyte
 Laiterman, Lee Howard 16 Martin Van Buren H.S. 80-33 249 St.,
 Perfect Reproduction of Sound: Bellerose 11426
 The Electro-Thermal Loudspeaker
 Rosen, Russell Scott 17 Martin Van Buren H.S. 227-17 Hillside
 Determining How Occupational Preferences Ave. 11427
 Reflect Personal Attitudes
 Salamanca
 *Norton, Nancy Jean 17 Salamanca H.S. 315 Front Ave. 14779
 Meteorological Transitional Characteristics as
 Evidenced Across a Juneau Icefield Transversal
 Section
 Staten Island Candela, Philip Anthony 17 Port Richmond H.S. 1030 Post Ave.
 Mineralogy and Petrology of Staten 10302
 Island, New York
 Valley Stream Goldman, Peter David 17 Valley Stream Central H.S. 20 Fairfax
 Apparatus for Display of Nuclear St. 11580
 Magnetic Resonance Absorption
 Wappingers Falls
 *Purges, Susan Hollis 17 Roy C. Ketcham H.S. 13 Cottam Hill
 A Comparison of the Flat Plate and 12590
 Focusing Solar Energy Collectors
 White Plains Taddei, Joanne Veronica 17 Good Counsel Academy 103 Beverly
 Ecological Variations in the Shell Rd. 10605
 Structure of Nucella lapillus Linnaeus
 NORTH CAROLINA
 Roanoke
 *Carrier, Constance Anne 17 Starmount H.S. Rt. 3, Box 359,
 Turnover of Phosphatidylethanolamine Hamptonville 27020
 in Stringent and Relaxed Escherichia coli
 Cerro Gordo Faircloth, Daniel Edward 17 West Columbus H.S. Ft. 2,
 Phosphatidyl Choline: Box 99-A, Chadbourn 28431
 A CO₂ Diffusion Accelerator
 Pineville Petrowski, Nancy Lee 17 South Mecklenburg H.S. 7009
 Use of Escherichia Knightswood Dr., Charlotte 28211
 coli as an Indicator of Polluted Waters
 and Its Possible Fallibility
 Whitakers Paker, Vicki Vaughn 17 Enfield Academy Rt. 1, Box 456
 Effects of Radiation on Plants Pattleboro 27809
 NORTH DAKOTA
 Bismarck Skodje, Rex Thomas 17 Bismarck H.S. 1814 Kavaney Dr. 58501
 A Study of Oxygen Atom Reactions With Propane
 Center Rockenbach, Billie Andrew 17 Center H.S. Fort Clark Rt.,
 The Genus Ceranium in Wyoming Stanton 58571
 Valley City Hansen, Kristine Louise 17 Valley City H.S. Rt. 2, Box 28
 Effects of Digestion and Lactobacillus acidophilus on Weed Seed Germination 58072
 Williston Jamieson, Andrew Orr 17 Williston H.S. 1520 Rose Lane 58801
 Thermals and Soaring Flight

OHIO

- Cincinnati Pescovitz, Mark David 17 Walnut Hills H.S. 4098 Rose Hill Ave.
Photolysis of Dansylated Amino Acids 45229
- Columbia Station Malik, John Andrew 17 Columbia H.S. 26630 Atkins Rd. 44028
Acoustic Properties of Power Sonic Transducers
- Columbus Bulman, Gary Eugene 17 Whitehall Yearling H.S. 379 Beaver
Energy Conversion and Solid State Refrigeration 43213
- Delphos Weber, William Louis 17 St. John H.S. R.R. #2 45833
Remote Control With Laser
- Elyria Fildes, Neal Pandall 18 Elyria Catholic H.S. 2255 W. Royalton
Nitrogen and Phosphorus as Ed., Grafton 44044
Limiting Factors in Eutrophication
- Euclid *Hsu, Leilin 17 Euclid H.S. 775 Walnut Dr. 44132
Synthesis of $(Cr(H_2O)_3ClO_2)Cl_2$ and the
Kinetic Study of Its Aquation
- Toledo Drees, James Paul 17 Central Catholic H.S. 4749 Harvest Lane
Elementary Random Number Generators 43623
- Armbuster, Tod Lewis 18 St. John's H.S. 9740 Monclova Rd.,
Effect of Changing Structure Upon the Monclova 43542
Photo Luminescence of $CuSO_4 \cdot NaCl$
Active ZnS Phosphor
- Steers, William Donald 17 St. John's H.S. 3789 Oak Forest
Isolation and Elucidation of Structure 43614
of an Alkaloid in *Phus typhina*

OKLAHOMA

- Duncan *Pullard, Susan Polly 17 Duncan H.S. 415 N. 21st St. 73533
Minimal Surfaces and Soap Bubble Films
- Muskogee Smith, William Wayne 17 Muskogee H.S. 1020 Chestnut 74401
Spin-Stabilization Analysis
- Mustang Vaughn, Kevin Mitchell 17 Mustang H.S. Rt. 2, Box 342 73064
Comparative Analysis of Incandescent and Laser
Light Sources in a Schlieren Optical System

OREGON

- Salem *Withrow, Karen Diane 17 South Salem H.S. 1341 Woodacre Dr.,
Experiment to Obtain the Reaction Rate S.E. 97302
Constant for the Iodine Clock Reaction

PENNSYLVANIA

- Archbald Osleski, Robert Michael 17 Valley View H.S. 403 Sunset,
Effect of Sulfur Dioxide on the Peckville 18452
Growth of Plants
- Bethel Park *Sculimbrene, Antonietta LaVerne 18 Bethel Park Sr. H.S. 2302
Effects of Biotin on Bethel Church Rd. 15102
Regeneration in *Dugesia tigrina*
- Elizabeth Grace, Anthony Albert 18 Elizabeth-Forward H.S. Box 207.
Uptake of Prostaglandin E₁ Greenock 15047
by Platelets

- Fort Washington *Duda, Gloria 17 Upper Dublin H.S. 446 Meetinghouse Rd.,
Influence of Amino Acid Analogues Amherst 19002
on Cellular Aging
- Greensburg Kubie, William Lewis 17 Greensburg Central Catholic H.S.
Modern Gnomonics R. D. #5, Box 4 15601

- Johnstown *Thomas, Janette Kaye 17 Gr. Johnstown Voc.-Tech. School
Effects of Iron R. D. #2, Box 179-A, Hollsopple 15935
in Relation to the Degree of Pollution
in a Fresh Water Stream
- Lititz *Mease, Marie Ann 17 Warwick H.S. 221 N. Broad St. 17543
Tracer Technique in Determining Sodium
Influx in *Ampullaria cuprina*
- Merion Station Cohen, Seth Shalom 16 Akiba Hebrew Academy 1338 Morris Rd.,
An Experiment Which has Demonstrated Wynnewood 19096
That Planaria are Capable of Learning
- Newtown Square *Conroy, Renée Jeanne 17 Marple-Newtown Sr. H.S. Spring Valley
Study of Chemoreception Dr., Rt. 3, Media 19063
of *Asterias forbesi* by *Mytilus edulis*
- Orefield *Bernstein, Wendy Beth 17 Parkland Sr. H.S. 59 Penn Hill Dr.,
Primitive Jupiter, Like Schnecksville 18078
Primitive Earth?

RHODE ISLAND

- Cranston Graham, Glenn David 17 Cranston H.S. West 39 Cliffside Dr.
Extension of Tetrahedroid Numbers and Their 02920
Ultra-Volume Approximation Into Higher
Dimensional Space
- Musen, Mark Alan 16 Cranston H.S. West 139 Belvedere Dr. 02920
Spectroscopic Resolution of the Absorption Bands
of Cytochromes a and a₃ by Numerical Analysis of
Absorption Spectra

SOUTH CAROLINA

- Spartanburg Jobe, Patrick Graham 17 Spartanburg H.S. 100 Meadow Lane 29302
Reaction Kinetics of the "Blue-Bottle" System

TENNESSEE

- Knoxville Chernoff, David Fisher 17 Webb School of Knoxville 8017
A Hemagglutination-Inhibition Bennington Dr. 37919
Test for Digoxin
- Memphis *Williams, Kenna Jane 17 Central H.S. 428 Stonewall St. 38112
A Method for Liquid Chromatography of Barbiturates
and Antiepileptic Drugs
- Waverly Mueller, William Thomas 17 White Station H.S. 4494 Princeton
Comparative Studies on the Effect of Plasmin 38117
on Human Platelet Fibrinogen and Plasma Fibrinogen
- *Bowen, Judith Margarete 17 Waverly Central H.S. 101 Court Sq.
Growth and Regenerate Characterization of 37185
Planarians Under Induced Magnetic Fields
- Smith, Ricky Lynn 17 Waverly Central H.S. 111 Truman St. 37185
Comparative Studies of Electrophoretic
Blood Serum Analysis

TEXAS

- Alief *Begley, Kathryn Elizabeth 17 Alief H.S. 11610 Corona Lane,
Theories Concerning the Evolution Houston 77072
of the Bodies in our Solar System
- Bellaire Goldberg, David Alan 17 Bellaire H.S. 3631 Wood Valley Dr.,
Law of Comparative Advantage and the Houston 77025
Transportation Model of Linear Programming

Dallas	*Reynolds, Lynn Marie 17 Bellaire H.S. <u>6127 Darnell St., Benomyl Uptake and Translocation From Amended Soil by Seedlings of Selected Plant Species</u> Houston 77036	Fairfax	Heppe, Stephen Bruce 17 W. T. Woodson H.S. <u>9309 St. Marks Pl.</u> Real Estate Values in the Game of Monopoly <u>22030</u>
Freeport	Furnell, Tommy Arthur, Jr. 18 White H.S. <u>4108 Echo Glen</u> <u>75234</u> Making a Base 8 Slide Rule	Falls Church	Varosi, Frank 17 J.E.B. Stuart H.S. <u>3635 Malibu Cir., Apt. 102</u> An Example of the Relation Between <u>22041</u> Differentiable Manifolds and Algebras of Real Functions
Houston	*Kidd, Carol Angela 17 Brazosport H.S. <u>902 Dixie Dr.</u> <u>77541</u> Analysis of Supernatant From a Continuous Culture of <u>Pseudomonas aeruginosa</u>	Floyd	Farmer, Joseph Collin 17 Floyd County H.S. <u>Rt. 1, Box 120-A</u> Design of a Hydrostatic-Tension, <u>24091</u> Cryogenic Bubble Chamber
Lubbock	Kilbourn, Robert Glen 18 Clear Lake H.S. <u>1915 Reseda Dr.</u> <u>77058</u> Effects of Dimethyl Sulfoxide on the Structure and Synthesis of Deoxyribonucleic Acid	Harrisonburg	*Morris, Alice Virginia 18 Harrisonburg H.S. <u>165 New York Ave.</u> An Abstract Upside-Down System <u>22801</u>
Pecos	Adolph, Robert Arthur 17 Strake Jesuit H.S. <u>4610 Creekbend Dr.</u> <u>77035</u> Computer Timesharing: Control, Processing and Display	McLean	Marney, Stephen Carlyle 17 Langley H.S. <u>6943 Elizabeth Dr.</u> A Chemical Oxygen Generation Unit <u>22101</u> for the Free-Swimming Diver
Plainview	*Raney, Doris Kay 18 Coronado H.S. <u>5807 37th St.</u> <u>79407</u> Conservation of Energy in Elastic and Inelastic Collisions	Norfolk	Reynolds, Robert Craig 17 McLean H.S. <u>2427 Villanova Dr.</u> Sodium Porohydride Reduction of <u>Vienna</u> <u>22180</u> Carbonyl Compounds to Alcohols
San Antonio	Cravens, Michael Roy 18 Pecos H.S. <u>519 Oleander</u> <u>72772</u> Some Physiological and Psychological Effects of Noise	Portsmouth	Angleman, Alan Carpenter 17 Norfolk Academy <u>5073 School Rd.</u> Refractive Indices of Mixtures <u>Virginia Beach</u> <u>23455</u>
Waco	Stephens, David Austin 17 Pecos H.S. <u>520 W. 6th</u> <u>72772</u> Generating Complex Waveforms for Simulating Speech	Radford	Brenner, Daniel Gordon 18 Churchill H.S. <u>2312 Sterling Point</u> Polysaccharide Biosynthesis in the <u>Dr.</u> <u>23703</u> Cotton Epidermal Primary Cell Wall
	Cook, Jeffrey Valjean 17 Plainview H.S. <u>1807 Jefferson Dr.</u> <u>79072</u> Hydrocarbon Chain Lengths of the Monoglycerides of <u>Tecoma radican</u> by Thin-Layer Chromatography and Gas-Liquid Chromatography	Springfield	*Irwin, Earlene Gail 18 Radford H.S. <u>1006 Dundee Dr.</u> <u>24141</u> Hope for the Future: An Adequate Protein Diet Without Meat
	Jutson, Robert Michael Tempest, Jr. 18 Alamo Heights H.S. <u>117</u> Properties of the Dirac Matrices <u>Lilac Lane</u> <u>78209</u>		Pollard, Timothy John 17 West Springfield H.S. <u>6619 Huntsman</u> Metabolic Rate of Marine Ova During <u>22152</u> Their First Few Hours of Development
	*West, Debbie Sue 17 Robert E. Lee H.S. <u>306 Oblate Dr.</u> <u>78216</u> The Taylor Formation in Bexar County, Texas		Prevatt, Richard Montgomery 18 West Springfield H.S. <u>6908</u> Energy, Enthalpy and Entropy <u>Conservation Pr.</u> <u>22153</u> of the Phase Changes of the Organic Compound Benzene
	Shehorn, Lloyd Stephen 18 Robinson H.S. <u>209 E. Tate Dr.</u> <u>76706</u> Lieutenant Salt Ponds		Whiting, Bruce Gordon 17 West Springfield H.S. <u>6708 Rolling</u> Developing the Concepts and Programming <u>Ed.</u> <u>22152</u> for a Computer-Assisted Instruction Language System in Time-Sharing
		Vinton	*Cox, Linda Marie 18 William Pyrd H.S. <u>310 Daladier Dr.</u> <u>24172</u> Chemical Retardants of Salt Toxicity
		Winchester	Marquess, Steven Allen 17 John Handley H.S. <u>1705 Reaves St.</u> Reciprocity Failure Effect in <u>22601</u> Photographic Film
			WASHINGTON
Brigham City	Weidman, David W. 17 Box Elder H.S. <u>Box 433, Bear River City</u> <u>84301</u> Investigation of a Novel Production of Ester From Primary Alcohol	Des Moines	Cleunch, Gary Raymond 17 Mt. Rainier H.S. <u>115 S. 20th St.</u> Analysis of Bassoon Double Reeds <u>Seattle</u> <u>28148</u>
Clearfield	Patterson, Lewis Kraig 17 Clearfield H.S. <u>2281 N. 1500 W.</u> <u>Clinton</u> <u>84015</u> Effect of Electromagnetic Wavelength, Cobalt 60 and Iphosphorus 32 on the Allium Root Tip	Lacey	*Prewitt, Lee Ann 17 Timberline H.S. <u>6807 Cardinal Way #12,</u> Separation of Anthocyanids Using <u>Olympia</u> <u>98503</u> Thin-Layer Chromatography
Rutland	Chaffee, Antony Mark 17 Putland H.S. <u>N. Grove St.</u> <u>05701</u> Galactic Evolution	Seattle	Sauer, Christopher Allen 17 Lincoln H.S. <u>1900 Federal Ave. E.</u> Ion Beams <u>28102</u>
Alexandria	*Sicher, Christina Lynn 17 Hayfield Jr.-Sr. H.S. <u>3809</u> Supercoiling in Linear <u>Stonebridge Rd.</u> <u>22306</u> Alpha Helices	Spokane	Aster, David Brian 17 Joel E. Ferris H.S. <u>3019 Tekoa St.</u> Computer Graphics: A Computer Program <u>22003</u> to Help the Draftsman in Revolutions
Arlington	Maish, Alexander Bourke 17 Wakefield H.S. <u>1411 S. 21st St.</u> <u>22202</u> Simulating Zero-Gravity Plant Growth		Bergman, Bruce Edward 17 Joel E. Ferris H.S. <u>E. 2524 S.</u> Effect of Varying Magnesium Concentrations on <u>Arabidopsis sp.</u> <u>Altamont Blvd.</u> <u>22202</u>
Bedford	*Tuck, Brigit Jill 17 Liberty H.S. <u>1010 Galax St.</u> <u>24523</u> Effects of Thermal Pollution on Crayfish Respiration		
Charlottesville	Humphris, Robert Rives, Jr. Albemarle H.S. <u>109 Falcon Dr.</u> <u>22901</u> Demonstration of Light Pressure		
	*Deaver, Emily 17 Lane H.S. <u>2504 Hillwood Pl.</u> <u>22901</u> Identifying Certain Elements by Measuring Their Characteristic Spectra		

WEST VIRGINIA

Beckley Collins, Marshall Scott 17 Woodrow Wilson H.S. Box 203 25801
 Analyzing Atmospheric Refraction and Ionospheric
 Inhomogeneities at Differential Latitudes

Morgantown *Chen, Jane 18 Morgantown H.S. 1277 Dogwood Ave. 26505
 Comparative Study of Australopithecine Skull Casts

WISCONSIN

Racine Taggart, Timothy Joseph 18 Washington Park H.S. 2029 W. Lawn
 Life History and Monthly Larval Population Ave. 53405
 Studies of Chironomidae in Mound Cemetery
 Fond, Racine, Wisconsin

Sheboygan Brenstrup, Robert John 17 Sheboygan South H.S. 439 Pioneer Rd.
 Synthesis of Some Alkyl 1, 3, 5 Hexatrienes 530^a1

* * * * *

Washington Trip Winners

of the

Thirty-second Annual Science Talent Search®

for the Westinghouse Science Scholarships and Awards

NORTH DAKOTA

Bismarck Skodje, Rex Thomas 17 Bismarck H.S. 1814 Kavaney Dr. 58501
OHIO

Euclid *Hsu, Leilin 17 Euclid H.S. 775 Walnut Dr. 44132
PENNSYLVANIA

Newtown Square *Conroy, Renée Jeanne 17 Marple-Newtown Sr. H.S. Spring Valley Dr.,
Rt. 37, Media 19063

RHODE ISLAND

Cranston Musen, Mark Alan 16 Cranston H.S. West 139 Belvedere Dr. 02920
SOUTH CAROLINA

Spartanburg Jobe, Patrick Graham 17 Spartanburg H.S. 100 Meadow Lane 29302
TEXAS

Bellaire Goldberg, David Alan 17 Bellaire H.S. 3631 Wood Valley Dr., Houston
77025

UTAH

Brigham City Weidman, David N. 17 Box Elder H.S. Box 433, Bear River City 84301
VIRGINIA

McLean Reynolds, Robert Craig 17 McLean H.S. 2427 Villanova Dr., Vienna 22180
WISCONSIN

Sheboygan Brentrup, Robert John 17 Sheboygan South H.S. 439 Pioneer Rd. 53081



SCIENCE SERVICE, INC. - 1719 N Street, N.W. - Washington, D.C. 20036

The forty Washington trip winners of the 32nd Annual Science Talent Search, among whom \$67,500 of Westinghouse Science Scholarships and Awards will be distributed, represent about 3.6% of those who completed entries in this scientific and educational competition.

Designed to discover and develop scientific ability among high school seniors, the Science Talent Search is conducted annually for the Westinghouse Science Scholarships and Awards by Science Clubs of America, a Science Service activity, 1719 N Street, N.W., Washington, D.C. 20036.

Eleven girls and 29 boys (proportion determined by ratio of boys and girls completing entries) are being invited to Washington, D.C., for an all-expense paid trip March 14 through March 19, 1973, 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 14 to 18 years of age and come from 32 cities in 23 states. They were picked by the judges from among 13,385 contestants of whom 1,105 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

* indicates girls
H.S. indicates High School

HOME ADDRESS follows name of school
AGE of winner follows name

ARIZONA

Tucson Demer, Joseph Louis 17 Salpointe H.S. 2902 N. Jackson Dr. 85719

CALIFORNIA

Los Angeles *Zack, Esther Leila 17 Alexander Hamilton H.S. 1778 S. Bedford St. 90035
Oakland Brittenham, Steven Leonard 17 Skyline H.S. 2000 92nd Ave. 94603
San Diego Greene, Glenn Joel 16 Crawford H.S. 5835 Baja Dr. 92115
*Vayo, June Anne 17 James Madison H.S. 4061 Mt. Barnard Ave. 92111

COLORADO

Fort Collins Srivastava, Arvind Narain 16 Poudre H.S. 1318 Hillside Dr. 80521

CONNECTICUT

Southington Fallon, Irving Wayne Edison 17 Southington H.S. 51 Robin Dale Terr., Plantsville 06479

FLORIDA

Jacksonville Minter, John Russell 17 Terry Parker H.S. 7049 Eaton Ave. 32211
*Miller, Laureen Priscilla 18 William M. Raines H.S. 5527 Vernon Rd. 32209

HAWAII

Aiea Higuchi, Darryl Akio 17 Alea H.S. 99-414 Uhaloa St. 96701
Kawahara, Rodney Susumu 18 Alea H.S. 98-136 Hekaha St. 96701

ILLINOIS

Barry Rodriguez, Bradford Jay 14 Barry H.S. 1300 Pratt 62312
Lake Forest *Everds, Nancy Ellen 17 Lake Forest H.S. 1200 N. Sheridan Rd. 60045

INDIANA

Evansville *Zygmunt, Deborah Jane 17 Central H.S. 7729 Meadowview Dr. 47710

MARYLAND

Gaithersburg Weinert, Michael Theodor Alfred 16 Gaithersburg H.S. 10521 Seneca Ridge Dr. 20760

MISSOURI

Kansas City *Raymond, Anne Louise 17 Notre Dame de Sion H.S. 7220 Hullwood 64133

MONTANA

Malta Smith, Michael Allan 18 Malta H.S. 540 S. 3rd Ave., East 59538

NEBRASKA

Minden Schneider, Donald Patrick 17 Minden H.S. Box 75, Heartwell 68945

NEW JERSEY

Perth Amboy *Zupko, Karin Gay 17 Perth Amboy H.S. 773 Barry Ave. 08861

NEW YORK

Baldwin Lipshutz, Robert Jay 18 Baldwin Sr. H.S. 109 Maryland Ave., Freeport 11520

Bayside Fogel, Eric Martin 17 Benjamin N. Cardozo H.S. 216-10 47 Ave. 11361
Brooklyn Wedeen, Van Jay 16 Midwood H.S. 116 Buckingham Rd. 11226

Elmont Noto, James Van 18 Elmont Memorial H.S. 152 Emily Ave. 11003

Forest Hills Rosenbaum, Thomas Felix 17 Forest Hills H.S. 72-44 Ingram St. 11375

Tatevossian, Leon Hrand 17 Forest Hills H.S. 7041 Harrow St. 11375

*Boccio, Donalisa Victoria 16 Bronx H.S. of Science 1777 Monroe Ave. 10457

Climan, Sanford Ross 16 Bronx H.S. of Science 3335 Gunther Ave. 10469
Rubin, Joshua L. 16 Bronx H.S. of Science 41-42 42 St., Long Island City 11104

Treatman, David 16 Bronx H.S. of Science 120-16 DeKruif Pl. 10475

*Bechtold, Jill Eleanor 18 Hunter College H.S. 67-40 164 St., Flushing 11365

Queens Village Laiterman, Lee Howard 16 Martin Van Buren H.S. 80-33 249 St. Bellerose 11426