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AUTHOR Carter, Constance, Comp.
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ABSTRACT

This guide to the literature on space science projects is not necessarily intended to be a comprehensive bibliography. It is designed to provide the reader with a set of resources that can be used to focus on the topic. The document lists the subject headings used by the Library of Congress in cataloging information on space science projects. It also contains citations of materials categorized as: (1) brief introductions; (2) basic texts; (3) additional titles; (4) handbooks and encyclopedias; (5) other bibliographies; (6) conference proceedings; (7) government publications; (8) abstracting and indexing services; (9) journal articles; (10) technical reports; and (11) additional sources of information. (TW)

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## SPACE SCIENCE PROJECTS
Compiled by Constance Carter

TB 86-7

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SCOPE: Sources to assist elementary and secondary school students and teachers in planning, preparing and executing projects in the space sciences. Sources in other areas of science and on science fairs themselves are listed in Science Fair Projects (LC Science Tracer Bullet 85-9). This compilation is not intended to be a comprehensive bibliography, but is designed--as the name of the series implies--to put the reader "on target."

## INTRODUCTION

Moulton, Robert P. First to fly. Foreword by James A. Abrahamson. Minneapolis, Lerner Publications Co., c1983. 119 p.
QL496.7.M68 1983

An account of eighteen-year-old Todd Nelson's experiment, "Insect in Flight Motion Study," which was the first student experiment ever to fly aboard a manned space shuttle flight.

SUBJECT HEADINGS used by the Library of Congress, under which books on space science projects can be located in most card, book, and online catalogs, include the following:

ASTRONAUTICS--EXPERIMENTS (Highly relevant)
ASTRONOMY--EXPERIMENTS (Highly relevant)
ASTRONOMY--EXHIBITIONS (Highly relevant)
EARTH SCIENCES--EXPERIMENTS (Highly relevant)
SCIENCE--EXPERIMENTS (Highly relevant)
See also subdivision EXPERIMENTS under subject headings of particular interest, such as AIR, FLIGHT, PHYSICS, etc.
SCIENCE--EXHIBITIONS (Highly relevant)
SPACE FLIGHT--EXPERIMENTS (Highly relevant)
SPACE SCIENCES--EXPERIMENTS (Highly relevant)
SPACE SHUTTLES--EXPERIMENTS (Highly relevant)
COSMIC PHYSICS (Relevant)
MANNED SPACE FLIGHT (Relevant)
OUTER SPACE--EXPLORATION (Relevant)
ROCKETS (AERONAUTICS)---(Relevant)
SCIENCE--STUDY AND TEACHING (Relevant)
See also subdivisions STUDY AND TEACHING, or PROBLEMS, EXERCISES, ETC., or AMATEURS' MANUALS under subject headings of interest, such as ASTRONOMY, ASTROPHYSICS, SPACE SCIENCES, etc.
SKYLAB PROGRAM (Relevant)

SPACE BIOLOGY (Relevant)
SPACE MEDICINE (Relevant)
SPACE STATIONS (Relevant)
SPACE VEHICLES (Relevant)
SPACELAB PROJECT (Relevant)
SPACE INDUSTRIALIZATION (Related)
RESEARCH--METHODOLOGY (More general)

BASIC TEXTS

Culver, Roger B. An introduction to experimental astronomy. San Francisco, W. H. Freeman, c1984. 196 p. QB62.7.C84 1984

Greenleaf, Peter. Experiments in space science. New York, Arco Pub., c1981. 166 p. Pamphlet box*
Edition for 1969, by S. Engelbrektson and P. Greenleaf, published under title: Let's explore outer space.
Instructions for conducting a variety of experiments and observations with simple equipment to reveal basic facts about the moon, stars, planets, solar system, comets, meteors, and rocketry.

Loiry, William S. Winning with science: the complete guide to science research and programs for students. Sarasota, Fla., Loiry Pub. House, c1983. 439 p. Q180.55.M4L64 1983*
Includes bibliographical references and index.

The Long duration exposure facility (LDEF): mission 1 experiments. Edited by Lenwood G. Clark ... et al.. Washington, Scientific and Technical Information Branch, National Aeronautics and Space Administration; Springfield, Va., for sale by the National Technical Information Service, 1984. 189 p. (NASA SP, 473)
QB500.264.L66 1984

McKay, David W., and Bruce G. Smith. Space science. New York, F. Watts, 1986. 127 p. QB500.264.M36 1986
Ideas and instructions for a variety of science projects that examine the characteristics of the space environment and consider forces such as gravity, magnetism, and buoyancy.

Rosenfeld, Sam. Science experiments for the space age. Irvington, N.Y., Harvey House, 1972. 190 p. TL794.3.R68
Bibliography: p. 185-186.
Experiments which can be done at home demonstrate principles of space technology.

Simon, Seymour. How to be a space scientist in your own home. New York, Lippincott, c1982. 83 p. QB500.S545 1982

*Available in reference collection, Science Reading Room

Vogt, Gregory. The space shuttle. New York, F. Watts, 1983. 122 p. QB500.264.V63 1983

Includes bibliographical references and index.

Discusses experiments proposed by high school students that have been performed aboard "Skylab" and gives advice to those interested in similar space research competitions.

## SPECIALIZED TEXTS

Apfel, Necia H. Astronomy and planetology. New York, F. Watts, 1983. 122 p. QB46.A63 1983

Gives instructions for building or making theodolites, sundials, telescopes, spectroscopes, planetariums, and models of stars, and describes methods and times for observing the sun, moon, planets, stars, comets, and meteors.

Ardley, Neil. Exploring magnetism. London, New York, F. Watts, 1983. 32 p. QC755.3.A73 1983

Explains the basic principles of magnetism and suggests a variety of experiments that use magnets.

Banks, Michael A. Countdown: the complete guide to model rocketry. Blue Ridge Summit, Pa., Tab Books, c1985. 212 p. TL844.B36 1985

Bibliography: p. 196-197.

Gatland, Kenneth W. The young scientist book of spaceflight. Saint Paul, EMC Corp., c1978. 32 p. TL793.G343 1978

Describes the spacecraft man has put into space from the V-2 rocket to the present. Includes related experiments and instructions for making models of two spacecraft.

Lunetta, Vincent N., and Shimshon Novick. Inquiring and problem-solving in the physical sciences: a sourcebook. Dubuque, Iowa, Kendall/Hunt Pub. Co., c1982. 202 p. Q182.3.L86 1982*

Mayer, Ben. Starwatch. New York, Perigee Books, 1984. 144 p. QB63.M445 1984

Petty, Kate. Build your own space station. New York, F. Watts, 1985. 30 p. TL844.P48 1985

Trowbridge, Leslie W. Experiments in meteorology: investigations for the amateur scientist. Garden City, N.Y., Doubleday 1973. 270 p.

Bibliography: p. 255-259. QC863.4.T76*

## CLASSROOM EXPERIMENTS AND ACTIVITIES

Aviation science activities for elementary grades. Rev. 1983. Washington, Office of Public Affairs, Aviation Education Programs, Federal Aviation Administration, U.S. Dept. of Transportation, 1985. 33 p. Pamphlet box*

"GA-20-30."

Caballero, Jane A. Aerospace projects for young children. Atlanta, Ga., Humanics, c1979. 109 p. TL793.C23
Bibliography: p. 104-107.
Examines the sky, flight, exploration of space, and air and space travel. Includes quizzes, activities, and a teacher's guide.

Challand, Helen J. Activities in the earth sciences. Chicago, Childrens Press, c1982. 93 p. QB46.C44 1982

Get Away Special Experimenter's Symposium (1984, Greenbelt, Md.). Get Away Special Experimenter's Symposium: proceedings of a symposium held at NASA Goddard Space Flight Center, Greenbelt, Maryland, August 1-2, 1984. Clarke R. Prouty, editor. Washington, National Aeronautics and Space Administration, Scientific and Technical Information Branch; Springfield, Va., for sale by the National Technical Information Service, 1984. 156 p. (NASA conference publication, 2324) Q182.3.A16 1984

Lawrence, Richard M. Chemistry, including suggestions for classroom activities and laboratory experiments. A curriculum project prepared at Ball State University, Muncie, Indiana. Richard M. Lawrence, director. Washington, National Aeronautics and Space Administration; for sale by the Supt. of Docs., U.S. Govt. Print. Off., 1971. 228 p. TL845.L38
"NASA EP-87."

NASA educational briefs. Washington, National Aeronautics and Space Administration, 1980?- Pamphlet box*
Partial contents: EB 81-1 Space shuttle statistics.--EB 81-2 Space shuttle suit.--EB 81-3 Images from space.--EB 82-9 Robotics in space.--EB 83-8 STS-9 and Spacelab 1.--EB 83-9 STS-9 and amateur radio.

National Science Teachers Association. A universe to explore; a space sciences source book for junior high school teachers. Washington, 1969. 139 p. QB500.N38
"Prepared from materials developed by a committee of junior high school science teachers working in a cooperative project sponsored by the National Science Teachers Association and the National Aeronautics and Space Administration."
Bibliography: p. 135-137.

Simon, Seymour. Projects with air. New York, F. Watts, 1975. 63 p. QC863.5.S54

Skylab, classroom in space. Edited by Lee B., i.e., R. Summerlin. Prepared by George C. Marshall Space Flight Center. Washington, Scientific & Technical Information Office, National Aeronautics and Space Administration, for sale by the Supt. of Docs., U.S. Govt. Print. Off., 1977. 182 p. (NASA SP, 401) TL789.8.U6S5675

Skylab Program. Skylab experiments. Produced by the Skylab Program and NASA's Education Programs Division in cooperation with the University of Colorado. Washington, National Aeronautics and Space Administration, 1973- QB61.S52 1973

Space mathematics; a resource for teachers, outlining supplementary space-related problems in mathematics. Washington, National Aeronautics and Space Administration, 1972. 138 p. TL845.S65
Developed at Duke University under the auspices of the Dept. of Mathematics.
Bibliography: p. 136-138.

Space science; a guide outlining understandings, fundamental concepts, and activities. Developed at Columbia University under the auspices of the director of the Summer Session, in cooperation with the Goddard Institute for Space Studies. Washington, National Aeronautics and Space Administration, 1969. 144 p. QB45.S68

BACKGROUND READINGS

Billings, Charlene W. Space station: bold new step beyond earth. New York, Dodd, Mead, c1986. 64 p. TL797.B55 1986
Describes the design, functions, and possible methods of construction of the permanently manned space station proposed by NASA and projects what it will be like to live and work there.

Branley, Franklyn Mansfield. Space colony: frontier of the 21st century. New York, Elsevier/Nelson Books, c1982. 103 p. TL795.7.B7 1982

Compton, W. David., and Charles D. Benson. Living and working in space: a history of Skylab. Washington, Scientific and Technical Information Branch, National Aeronautics and Space Administration; for sale by the Supt. of Docs., U.S. Govt. Print. Off., 1983. 449 p. (The NASA history series, NASA SP, 4208) TL789.8.U6S5546 1983*

Cowley, Stewart. Space flight. U.S. ed. Chicago, Rand McNally, 1982. 91 p. TL793.C687 1982b
Traces the history of space flight from the first steps into space achieved in 1957 by Russian Sputnik I to ramjets and solar sail flights of the future.

Fichter, George S. The space shuttle. New York, F. Watts, 1981. 64 p. TL795.5.F52 1981
Describes the conception of the space shuttle, its construction, its functions, and its potential for future space travel.

Friedlander, Michael W. Astronomy, from Stonehenge to quasars. Englewood Cliffs, N.J., Prentice-Hall, c1985. 589 p. QB45.F84 1985

Hendrickson, Walter B. Manned spacecraft to Mars and Venus, how they work. New York, Putnam, 1975. 128 p. TL873.H46 1975

Gallant, Roy A. Once around the galaxy. New York, F. Watts, 1983. 87 p. QB46.G327 1983

Life in space. Alexandria, Va., Time-Life Books, 1983. 304 p. TL793.5.L53 1983 (Folio)

Maurer, Richard. The nova space explorer's guide: where to go and what to see. New York, C. N. Potter; distributed by Crown Publishers, 1985. 118 p. TL793.M38 1985

Newell, Homer Edward. Beyond the atmosphere: early years of space science. Washington, Scientific and Technical Information Branch, National Aeronautics and Space Administration, 1980. 497 p. (NASA history series, NASA SP, 4211) QB500.N48

Nicolson, Iain. Sputnik to space shuttle. New York, Dodd, Mead, c1985. 224 p. TL793.N54 1985
Bibliography: p. 218-219.

Pogue, William R. How do you go to the bathroom in space? New York, T. Doherty Associates, c1985. 156 p. TL793.P54 1985
Bibliography: p. 154-156.

Sabin, Louis. Space exploration and travel. Mahwah, N.J., Troll Associates, c1985. 30 p. TL793.S18 1985

Smith, Carter. One giant leap for mankind. Morristown, N.J., Silver Burdett Co., c1985. 64 p. TL547.S58 1985
Discusses the developing events taking rockets, satellites, and man into space.

Stine, George Harry. Handbook for space colonists. New York, Holt, Rinehart, and Winston, c1985. 273 p. TL793.S758 1985

Weiss, Malcolm E. Far out factories: manufacturing in space. New York, Dutton, c1984. 84 p. TL797.W43 1984

RELATED TITLES

Benford, Timothy B., and Brian Wilkes. The space program quiz & fact book. Introduction by Frank Borman. New York, Harper & Row, c1985. 257 p. TL793.B395 1985

Graduate student researchers program. 1986- Washington, Educational Affairs Division, National Aeronautics and Space Administration. TL846.G72
Annual.

Naumann, Robert J., and Harvey W. Herring. Materials processing in space: early experiments. Washington, Scientific and Technical Information Branch, National Aeronautics and Space Administration, 1980. 114 p. (NASA SP, 443) TA410.N28

Sheffield, Charles, and Carol Rosin. Space careers. New York, Morrow, 1984. 240 p. TL850.S54 1984

Social sciences and space exploration: new directions for university instruction. Edited by T. Stephen Cheston, Charles M. Chafer, Sallie Birket Chafer. Washington, National Aeronautics and Space Administration; for sale by the Supt. of Docs., U.S. Govt. Print. Off., 1984. 128 p. TL790.S63 1984
"EP-192."

Space station program: description, applications, and opportunities. Space Station Task Force, National Aeronautics and Space Administration. Park Ridge, N.J., Noyes Publications, c1985. 754 p. TL797.S6454 1985*

Van Huss, Wayne D., and William W. Heusner. Space flight research relevant to health, physical education, and recreation, with particular reference to Skylab's life science experiments. Washington, National Aeronautics and Space Administration, 1979. 52 p. RC1150.V36

## HANDBOOKS AND ENCYCLOPEDIAS

The All color book of space. New York, Arco, c1985. 112 p. QB602.A43 1985

Baker, David. The history of manned space flight. New York, Crown Publishers, 1982. 544 p. TL873.B33 1982*

Gutnik, Martin J. How to do a science project and report. New York, F. Watts, 1980. 63 p. Q164.G96

Lewis, Richard S. The illustrated encyclopedia of the universe: exploring and understanding the cosmos. New York, Harmony Books, c1983. 320 p. QB501.2.L48 1983*

Rand McNally astronomy encyclopedia. Chicago, Rand McNally, 1984. 141 p. QB46.R333 1984
Previously published as: Rainbow universe encyclopedia. 1982.

Ridpath, Ian. The young astronomer's handbook. New York, Arco, 1984, c1981. 224 p. QB46.R545 1984

Stine, George Harry. The handbook of model rocketry. Rev. 5th ed., 1st Arco ed. New York, Arco, c1983. 367 p. TL844.S77 1983
Official handbook of the National Association of Rocketry.

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Aerospace bibliography. 7th ed. Compiled for National Aeronautics and Space Administration by Jean F. Blashfield. Washington, National Aeronautics and Space Administration; for sale by the Supt. of Docs., U.S. Govt. Print. Off., 1982. 140 p. Pamphlet box*

The bibliography, first published in 1961, was one of NASA's early educational publications. Updated regularly until the 6th ed., which appeared in 1972, it was designed to assist educators in selecting aerospace literature for their classroom needs. The present edition is limited to books and reference materials published 1971-1980.

Educators guide to free science materials. 1960- Randolph, Wis., Educators Progress Service. Q181.A1E3*

Science fair project index, 1960-1972. Compiled by the staff of the Science and Technology Division of the Akron Summit County Public Library. Edited by Janet Y. Stoffer. Metuchen, N.J., Scarecrow Press, 1975. 728 p. Q182.3.S34 1975*

Bibliography: p. 713-728.

Science fair project index, 1973-1980. Edited by Science and Technology Division, Akron-Summit County Public Library. Metuchen, N.J., Scarecrow Press, 1983. 723 p. Q182.3.S34 1975 Suppl.*

Bibliography: p. 709-723.

Science fair project index, 1981-1984. Edited by Cynthia Bishop, Deborah Crowe (Science and Technology Division, Akron-Summit County Public Library). Metuchen, N.J., Scarecrow Press, 1986. 686 p. Q182.3.S34 1975 Suppl. 2*

Bibliography: p. 680-686.

Science project information index, 1973-1983. Edited by Alex Spence. Toronto, Infolib Resources, c1984. 282 p. Pamphlet box*

Bibliography: p. 279-282.

The Second science project information index. Edited by Alex Spence. Toronto, Infolib Resources, c1986. 144 p. Pamphlet box*

Bibliography: p. 141-144.

## BOOK/FILM REVIEWS AND "BEST BOOK" SOURCES

Appraisal; children's science books. v. 1- 1968- Boston, Children's Science Book Review Committee. Z7401.A63

The Best science books for children. Compiled and edited by Kathryn Wolff ... and others. Washington, American Association for the Advancement of Science, c1983. 271 p. (AAAS publication, 83-5) Q181.A1A68 no. 83-5*

Films in the sciences: reviews and recommendations: selected science and mathematics films for students, teachers, professionals, and general audiences, compiled and edited by Michele M. Newman and Madelyn A. McRae. Washington, American Association for the Advancement of Science, 1980. 172 p. (AAAS publication, 80-9)
Q181.A1A68 no. 80-9*

Mount, Ellis, and Barbara List. Sci-tech books of 1985: 100 outstanding titles for general library collections. Library journal, v. 111, Mar. 1, 1986: 43-51. Z761.L7
An annual feature of the March 1 issue.

New technical books. 1915- New York, New York Public Library.
Z5854.N542*

Richter, Bernice, and Duane Wenzel, comps. The Museum of Science and Industry basic list of children's science books, 1973-1984. Chicago, American Library Association, 1985. 154 p.
Z7401.R49 1985

Science books for children: selections from Booklist, 1976-1983. Selected by Denise Murcko Wilms. Chicago, American Library Association, 1985. 183 p. Z7401.S363 1985*

Science books & films. 1964- Washington, American Association for the Advancement of Science. Z7403.S33*

Technical book review index. 1935- Pittsburgh, etc., JAAD Publishing Co., etc. Z7913.T36*
Issued 1935-1976 by the Special Libraries Association.

Wolff, Kathryn, Joellen M. Fritsche, and Gary T. Todd, comps. The best science films, filmstrips, and videocassettes for children: a selected and annotated list of science and mathematics films, filmstrips, and videocassettes for children ages five through twelve. Washington, American Association for the Advancement of Science, c1982. 140 p. (AAAS publication, 82-6) Q190.W64 1982

ABSTRACTING AND INDEXING SERVICES that index relevant journal articles on science projects in general are listed below. Some suggested terms are given as aids in searching. Space sciences material will be indexed under terms beginning ASTRONOMY, ASTRONAUTICS, SPACE, etc. The following indexes are available in most public and college libraries.

Applied Science & Technology Index (1913-) Z7913.I7*
See: Science--Exhibits
Science--Experiments

Note: Consult reference librarian for location of abstracting and indexing services in the Science Reading Room

Current Index to Journals in Education (1969-) Z5813.C8
See: Science Activities
Science Experiments
Science Fairs
Science Projects
Science Talent Search

Education Index (1929-) Z5813.E23
See: Science--Activities
Science--Exhibits
Science--Experiments
Science--Projects

General Science Index (1978-) Z7401.G46*
See: Science Fairs, School
Science--Exhibitions

Magazine Index (Sept. 1981-) uncataloged
See: Science--Exhibitions
Science--Experiments

Readers' Guide to Periodical Literature (1900-) AI3.R45
See: Science Fairs
Science Fairs, School
Science--Experiments
Science Talent Search

Resources in Education (1966-) Z5813.R4
See: Science Activities
Science Experiments
Science Fairs
Science Projects

Vertical File Index (1932-1934-) Z1231.P2V48
See: Science--Study and Teaching
Subject of interest, e.g., Astronomy, Chemistry, etc.

Students may also need to use space-oriented and more technical abstracting and indexing services for further information. Sample titles are listed below. These titles may be available only in large or specialized libraries.

Aerospace Medicine and Biology (1952-)
Air University Library Index to Military Periodicals (1949-)
Astronomy and Astrophysics Abstracts (1969-)
Engineering Index (1884-)
Government Reports Announcements & Index (1946-)
International Aerospace Abstracts (1961-)
Mathematical Reviews (1940-)
Metals Abstracts (1968-)

Meteorological & Geoastrophysical Abstracts (1950-)
Scientific and Technical Aerospace Reports (1963-)
Science Citation Index (1955-)

JOURNALS that often contain articles relevant to space science projects are

Aerospace America TL501.A688A25
Aviation Week & Space Technology TL501.A8
Physics Teacher QC30.P48
Popular Mechanics Magazine T1.P77
Science Activities Q181.A1S29
Science and Children LB1585.S34
Science News Q1.S76
Science Teacher Q181.S38
Scientific American T1.S5
see particularly "Amateur scientist" feature which appears each month.
Sky and Telescope QB1.S536
Spaceflight TL787.B725

REPRESENTATIVE JOURNAL ARTICLES

Bartlett, Albert A., and Charles W. Hord. The slingshot effect: explanation and analogies. Physics teacher, v. 23, Nov. 1985: 466-473. QC30.P48

Culbertson, Philip E. Using space. Chemtech, v. 15, Apr. 1985: 214-217. TP1.I612

Edgar, Robert. Skylab experiment results. Spaceflight, v. 18, Feb. 1976: 59-67. TL787.B725

Frost, Kenneth J., and Frank B. McDonald. Space research in the era of the space station. Science, v. 226, Dec. 21, 1984: 1381-1385. Q1.S35

Lamb, William G. A projectile motion bullseye. Science teacher, v. 52, Feb. 1985: 30-33. Q181.S38

Linde, Karen Vander. Seeds in space. Science and children, v. 22, Sept. 1984: 26. LB1585.S34
Poster folded in between pages 47-62.

Seibert, G. ESA material science experiments and experimental facilities for the first spacelab payload. JBIS: Journal of the British Interplanetary Society, v. 31, July 1978: 243-250. TL790.A1B7

Should we make products on the moon? Astronautics & aeronautics v. 21, June 1983: 80-85. TL501.A688A25

Space station 1995. Aerospace America, v. 23, Sept. 1985: 56-62, 66-67, 70-74, 76. TL501.A688A25

Van Allen, James A. Space science, space technology and the space station. Scientific American, v. 254, Jan. 1986: 32-39. T1.S5

Wienss, W. Spacelab-shelter and habitat for future manned missions. JBIS: Journal of the British Interplanetary Society, v. 33, May 1980: 173-184. TL790.A1B7

SELECTED MATERIALS available in the Science Reading Room pamphlet boxes include:

An astronaut speaks. Science and children, v. 23, Mar. 1986: 4-8.
"June and Dick Scobee prepared this interview for S&C a few weeks before January 28, 1986, when Commander Scobee and the members of his crew perished in the explosion of the space shuttle Challenger."

Collins, Michael. An Apollo 11 astronaut addresses the question of man vs. machine. Commercial space, v. 1, summer 1985: 67-72.

Estabrook, Barry. The crucial experiments. Science dimension, v. 17, no. 4, 1985: 21-28.
Describes Challenger's Mission 41-G and the experiences of Marc Garneau, Canada's first astronaut in space.

Grigsby, Doris K., and Mary H. Lewis. Tomatoes in space. Science and children, v. 22, Mar. 1984: 6-7.

Metzger, Claire. Ants ride along with Sally. Science activities, v. 21, Feb./Mar. 1984: 29-31.
NASA/Goddard contact personnel: p. 31.

My science project ... in outer space. American teacher, v. 70, Oct. 1985: 16.
Provides information on the Shuttle Student Involvement Program (SSIP) sponsored by the National Science Teachers Association.

Overbye, Dennis. Spacelab: doing science in orbit. Discover, v. 5, Feb. 1984: 16-21.

Ropelewski, Robert R. Industrial astronauts fly as payload specialists on shuttle. Commercial space, v. 1, summer 1985: 73-75.

Teacher in space project. Teacher's guide prepared by NASA, the National Science Teachers Association (NSTA), the National Council for the Social Studies (NCSS), and curriculum professionals. Social education, v. 50, Jan. 1986: Suppl. 1-16.
Includes list of NASA Teacher Resource Centers, p. 16.
Resources: p. 16.

Up, up, and away: a balloon launch. Washington, National Science Foundation, 1986. 4 p.
One of the activities suggested for National Science Week '86.

## ADDITIONAL SOURCES OF INFORMATION

Mr. Howard Golden
Educational Publications and Special Services Branch
NASA Headquarters
Code: LEP
Washington, D.C. 20546
Telephone: (202) 453-8327

Mr. Larry Bilbrough
Educational Services Division
Elementary and Secondary Programs Branch
NASA Headquarters
Code: LEE
Washington, D.C. 20546
Telephone: (202) 453-8396

National Science Teachers Association
1742 Connecticut Avenue, N.W.
Washington, D.C. 20009
Telephone: (202) 328-5800
Sponsors, with NASA, the NEW MAST (NASA Education Workshops for Math and Science Teachers) Workshops held during the summer at NASA Teacher Resource Centers throughout the country and the Space Science Student Involvement Program. Also publishes Science Fairs and Projects, a collection of reprints from NSTA journals.

Science Service
1719 N Street, N.W.
Washington, D.C. 20036
Telephone: (202) 785-2255
Administers the International Science and Engineering Fair and the Westinghouse Science Talent Search.