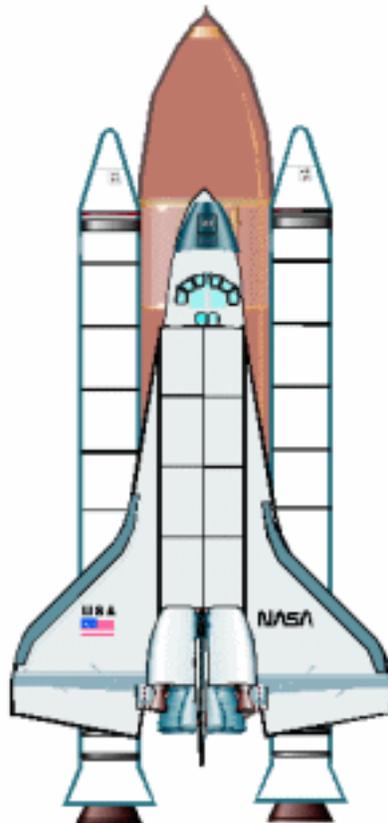




National Aeronautics and  
Space Administration

April 2004

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## **MISSION GEOGRAPHY**

Mission Geography is learning modules designed to link the content, skills, and perspectives of geography with NASA's missions and results at three grade levels: K-4, 5-8, and 9-12. The key skills and techniques of geography and other sciences are used in each module to model the approaches used by scientists to explore Earth from both the ground and from space.

## **FLIGHT TESTING NEWTON'S LAWS: THE TEST PILOT APPROACH TO HIGH SCHOOL PHYSICS**

Designed to engage high school students in Newtonian physics as it applies to the real world of flight testing aircraft. This high interactive program is derived from the Flight Testing Newton's Laws educator guides and companion 2-hour videos coproduced by NASA and the National Test Pilots Schools.

## **OUR SOLAR SYSTEM**

Offers an interactive exploration of the universe. More than 200 high-resolution images have been used to create this sight-and-sound voyage through space.

## **PATHFINDER AND THE BEST OF MARS**

Provides a stunning collection of Pathfinder images of Mars and includes the best Mars images from all the Mars missions, including Mariner, Viking, and Hubble views.

## **PC'S IN SPACE**

Offers an exciting collection of seven software programs, including: Exploring the Earth, Exploring the Sun, Exploring the Solar System, Exploring the Universe, Exploring North and South America, The Hubble Space Telescope First Servicing Mission and Exploring the States.

## **SPACE SHUTTLE FLIGHTS: 100 STOCK PHOTOS**

Offers a collection of digital color photos selected from thousands of NASA images covering Shuttle missions from the first flight in 1981 to the second Hubble Space Telescope Servicing Mission in 1997. Includes astronauts in space.

## **SPACEBORNE IMAGING RADAR-SEEING THE EARTH IN A NEW WAY**

Contains radar images of sites around the world as seen before and during the SIR-C missions of 1994. The CD-ROM contains handheld photographs from the Space Shuttle, QuickTime movies from the missions, and photographs from the ground.

## **STAR CHILD**

Captures three NASA astronomy and space science web sites as they existed in January of 2001. StarChild provides general astronomy and space travel information at two reading levels for K-8. Each of these sites contains its own learning adventure full of facts, fun, beautiful images, movies, and great educational resources for teachers.

## **THE DYNAMIC SUN**

Shows images and video clips on the Sun, presents factual information on the Sun and sun-related topics, explains Sun features including sun spots, shows how explosions on the Sun occur and effect the Earth, and details Sun study projects.

## **THE HUBBLE LIBRARY OF ELECTRONIC PICTUREBOOKS**

Welcomes you to the next millennium with an escorted tour of our solar system, a trip to the mountains of Venus, a walk on the Moon with Neil Armstrong, and a long, deep view into the wilderness of space.

## **THE REMOTE SENSING TUTORIAL**

Helps the viewer understand how remote sensing is applied to studying the land, sea and air making up the environments of our planet.

## **VIEWS OF THE SOLAR SYSTEM**

Offers an extraordinary collection of images, animations, facts and historical perspectives about the planets, moons, Sun, and other parts of our solar system.

## **VISIT TO AN OCEAN PLANET**

Reveals the importance of our oceans to global climate and life. Allows users to explore the Gulf of Mexico with satellite data, investigate the 1997-98 El Nino, discover “what’s up” with Earth-orbit satellites, and learn about the research activities of real life oceanographers.

## **WELCOME TO THE PLANETS**

Contains 190 selected images acquired over approximately 20 years of NASA planetary exploration. Images of all the planets, as well as comets, asteroids, meteorites, and lunar samples, are accompanied by information about the solar system bodies and the spacecraft that acquired the data.

## **WINDS OF CHANGE: AN EDUCATIONAL CD-ROM FROM THE NASA SCATTEROMETER PROJECT**

Provides students a curriculum resource for thematic, interdisciplinary instruction, and self-investigation of global climate Earth science activities.

**SHUTTLE-MIR: THE UNITED STATES AND RUSSIA SHARE HISTORY'S HIGHEST STAGE**

Explores the Shuttle-Mir Program with text, photos, videos, biographies, letters home from the Mir astronauts, and oral histories that explain the daily challenges faced by those working on Earth and in orbit. Students in junior high school and above should particularly enjoy this CD-Rom. CD-ROM runs both on Mac and PC computers.

**NOTE:**

**CD-ROMs cannot be duplicated because they are copyrighted. Additional copies must be purchased through CORE.**



## **ANNOUNCING THE “BEST OF” SERIES**

**The “Best Of” Series is a collection of three of the most frequently requested titles from our video catalog. To order this series, bring or mail a two-hour VHS tape to the NASA Educator Resource Center. We will duplicate this tape and mail it back to you.**

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>“Best of Series”</b>	<b>1 hr. 32 min.</b>	<b>All</b>	<b>BO1</b>

**This tape consists of the following three titles.**

**Astrosmiles  
Toys in Space  
Eating and Sleeping in Space**

## CAREERS

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>PREPARING TODAY FOR YOUR TOMORROW (1988)</b>	<b>32:00</b>	<b>4-8</b>	<b>A1</b>
Shows a detailed look at the career opportunities offered in aerospace at NASA Langley Research Center. Students from 6 <sup>th</sup> and 7 <sup>th</sup> grades are given a first hand look into the many careers offered at NASA.			
<b>ENGINEERS: TURNING IDEAS INTO REALITY (1990)</b>	<b>8:00</b>	<b>9-Adult</b>	<b>A2</b>
Shows a series of short commentaries by several engineers on why they chose their particular field of engineering and how they feel it impacts their everyday lives.			
<b>REACHING FOR THE STARS VIDEO CONFERENCE (1993)</b>	<b>150:00</b>	<b>6-Adult</b>	<b>A3</b>
Features five young minority and female students discussing their research and academic preparation in science, math and engineering. Encourages middle and high school students to consider careers in these fields and to prepare themselves academically to take advantage of future workforce opportunities. Includes a teacher's guide.			

### **Program 1**

Discusses the laser detection of wind shear.

### **Program 2**

Discusses fluid flow and chaos.

### **Program 3**

Discusses neutron-shielding material.

### **Program 4**

Discusses satellite communications

### **Program 5**

Discusses fluid mechanics and aero.

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>JOURNEY INTO CYBERSPACE 6-PART SERIES</b>	<b>146:00</b>	<b>5-8</b>	<b>A4</b>
Presents an informal review of the Journey into Cyberspace Series. In the first videotape, Dr. Shelley Canright of the NASA Langley Research Center presents an informal review of the program materials explaining their dual focus: to stimulate career exploration and to provide science-/math-related activities and concepts. The subsequent five programs transport two middle school students magically through their computer to a series of university campuses, including the University of Virginia, the College of William and Mary, Virginia Tech, Old Dominion University, and Hampton University. On their journey, the students enlist the aid of university students as they work on completing a career project for their science class. Each program focuses on university students doing real-world research and covers a variety of careers in the areas of mathematics, science, and engineering. The university students also explain how their ordinary interests have led to extraordinary opportunities in high-tech research and development.			
<b>LOUISIANA: GATEWAY TO THE STARS</b>	<b>30:00</b>	<b>K-12</b>	<b>A5</b>
Introduces the men and women of Louisiana who have made America's human space program a success.			
<b>THE GREAT ACHIEVEMENTS OF MECHANICAL ENGINEERING OF THE 20<sup>TH</sup> CENTURY</b>	<b>23:00</b>	<b>K-12</b>	<b>A6</b>
Discusses mechanical engineering of the 20 <sup>th</sup> century.			
<b>INVESTING IN AMERICA'S FUTURE</b>	<b>15:00</b>	<b>K-12</b>	<b>A7</b>

## EARTH SCIENCE

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>GLACIER BAY, ALASKA FROM THE GROUND, AIR AND SPACE (1996)</b>	<b>13:00</b>	<b>5-12</b>	<b>B1</b>
Highlights the fact that satellite data can be used to measure glacier changes from space and that remote sensing can extend the records of historical ground-based measurements to the present.			
<b>THE GLOBE PROGRAM (1996)</b>	<b>9:53</b>	<b>K-12</b>	<b>B2</b>
Highlights Vice President Gore's GLOBE Program. GLOBE is a worldwide science and education program coordinating the work of students, teachers and scientists to study and understand the global environment.			
<b>JASON: AN OCEAN ODYSSEY (2001)</b>	<b>9:00</b>	<b>6-12</b>	<b>B3</b>
Discusses this mission, which is a joint effort between France and the USA. Jason is an oceanography mission to monitor global ocean circulation, discover the tie between the oceans and atmosphere, improve global climate predictions, and monitor events such as El Nino conditions and ocean eddies.			
<b>MISSION EARTHBOUND SERIES (1994)</b>			
<b>TAPE 1</b>	<b>120:00</b>	<b>4-10</b>	<b>B4</b>
<b>Program 1</b> Explains Mission Earthbound.			
<b>Program 2</b> Discusses Earth's atmosphere: a cosmic perspective.			
<b>TAPE 2</b>	<b>120:00</b>	<b>4-10</b>	<b>B5</b>
<b>Program 3</b> Explains the atmospheric ozone - what it is and what is happening to it.			
<b>Program 4</b> Discusses climate systems and climate modeling.			
<b>TAPE 3</b>	<b>120:00</b>	<b>4-10</b>	<b>B6</b>
<b>Program 5</b> Explains green house gasses and climate change.			
<b>Program 6</b> Gives challenges and solutions to global atmospheric change.			

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>OUR HOME: EARTH FROM SPACE (2002)</b>	<b>22:00</b>	<b>9-12</b>	<b>B7</b>
Engages the audience with satellite imagery, newly developed computer graphics and historical footage to make the point that the Earth is an interconnected system of air, land, water and life. It has segments on:			
<ol style="list-style-type: none"> <li>1. An introduction to Earth system science</li> <li>2. Using satellites to look at Earth from space</li> <li>3. El Nino</li> <li>4. Global warming</li> <li>5. Drought</li> <li>6. Hurricanes</li> <li>7. An epilogue</li> </ol>			

<b>JOURNEYS THROUGH EARTH AND SPACE</b>	<b>18:00</b>	<b>9-12</b>	<b>B8</b>
Begins with a short introduction that explains what supercomputers do and how scientists tap their power to recreate the universe mathematically. The three stories then show how the teams are using their software to better understand, and perhaps one day predict, nature.			

<b>DATA SLATE</b>	<b>17:00</b>	<b>5-12</b>	<b>B9</b>
Allows students to easily and quickly maneuver through huge image data sets, overlay and compare images gathered over time, or with different instruments, and observe historical, geographical, geological, and environmental change or to compare images of the same area at different wavelengths. DataSlate is a multi-curricular image visualization tool for students.			

## **GEOGRAPHY**

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>UNDERGROUND RAILROAD (1999)</b>	<b>35:00</b>	<b>4-Adult</b>	<b>C1</b>
Increases student awareness of the Underground Railroad and the role celestial navigation played in the Railroad's success. NASA's Classroom of the Future in cooperation with NASA Headquarters produced this video.			

## HISTORY OF FLIGHT

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>FLYING MACHINES (1978)</b>	<b>28:00</b>	<b>9-Adult</b>	<b>D1</b>
Depicts aviation today and tomorrow - how we got where we are and where we plan to go. Topics covered include wind tunnels, power plants, materials, safety, comfort, and noise abatement.			
<b>AMERICA'S WINGS (1976)</b>	<b>28:00</b>	<b>9-Adult</b>	<b>D2</b>
Outlines the major contributions of those in aviation that have been responsible for development of improved aircraft wings.			
<b>MAN'S REACH SHOULD EXCEED HIS GRASP (1972)</b>	<b>23:00</b>	<b>4-9</b>	<b>D3</b>
Presents the story of flight and of man's reach for new freedom through aviation and the exploration of space. Narrated by Burgess Meredith.			
<b>MILESTONES OF FLIGHT (1988)</b>	<b>22:00</b>	<b>4-10</b>	<b>D4</b>
Traces the history of flight from Langley's first attempt to the Space Shuttle. The National Air and Space Museum produced this program. Includes live footage from many history-making events.			
<b>TEST FLIGHTS BEYOND THE LIMITS (1999)</b>	<b>150:00</b>	<b>7-Adult</b>	<b>D5</b>
Presents an entertaining and compelling story of the world of flight test and research.			
<b>PROGRAM 1: FLIGHTS OF DISCOVERY (1999)</b>			
Discusses what drives NASA's modern-day explorers to go beyond tragedy to find answers and push the edges of flights where no one has gone before.			
<b>PROGRAM 2: THE NEED FOR SPEED (1999)</b>			
Reports how pilots and crews meet the challenges of supersonic flight with planes such as the X-1 and SR-71 and explore the new technologies of the X-43 and High Speed Civil Transport which may open a new world of unprecedented speed.			
<b>PROGRAM 3: THE NEW FRONTIER (1999)</b>			
Discusses how current computer technology is changing how we fly. From the radical looking X-29 to the amazing thrust vectoring X-31, explore how computer developments can improve safety and deliver undreamed of performance.			

**ENGINEERING DESIGN  
CHALLENGES: CENTENNIAL  
OF FLIGHT (2003)**

**5-12            D6**

Focuses on the Wright Brothers' design process and their development of the "Flyer." Students are challenged to design a propeller that generates the maximum possible thrust using a small motor and other inexpensive materials. Students will work in teams to design, build, and test small propellers.

# HISTORY OF FLIGHT

## NASA AND THE AIRPLANE

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>NASA AND THE GOLDEN DAYS OF FLIGHT (1981)</b>	<b>29:00</b>	<b>9-Adult</b>	<b>E1</b>
Traces the very first days of powered flight as told by aeronautical pioneer Paul Barber, historian emeritus of the Smithsonian's National Air and Space Museum, Washington, D.C. Historical pictures of the early days of flight are featured.			
<b>NASA AND AMERICA'S WINGS (1976)</b>	<b>29:00</b>	<b>9-Adult</b>	<b>E2</b>
Examines some of the ideas that led to the development of the airplane. Briefly looks at people whose contributions were important to the world of aviation and how their ideas changed aviation.			
<b>NASA THE 60s STRIDES TOWARD THE FUTURE (1984)</b>	<b>29:00</b>	<b>9-Adult</b>	<b>E3</b>
Discusses how the 60s were of major importance in the development of aeronautics. This tape shows NASA's progress through the use of wind tunnels, research on hydroplaning and vertical takeoff and landing aircraft.			
<b>NASA AND RESEARCH PROJECT X-15 (1966)</b>	<b>28:00</b>	<b>9-Adult</b>	<b>E4</b>
Examines the X-15's development. Dramatic photography of X-15 flights and landings is included.			
<b>NASA AND QUIETER, FASTER AND SAFTER AIRCRAFT (1984)</b>	<b>30:00</b>	<b>9-Adult</b>	<b>E5</b>
Covers NASA aeronautical research. NASA projects to reduce jet engine noise, to develop planes that can travel faster and to improve aircraft safety are covered.			
<b>NASA AND CRASHES, HANG GLIDERS AND UNDERWATER PLANES (1984)</b>	<b>28:00</b>	<b>9-Adult</b>	<b>E6</b>
Reveals different approaches to NASA's aeronautical studies. Research takes place on land and sea, as well as in the air. Explains NASA's efforts to reduce wake turbulence-invisible "tracks" in the air that trail behind flying airplanes.			

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>NASA AND FLYING MACHINES (1978)</b>	<b>30:00</b>	<b>9-Adult</b>	<b>E7</b>
Shows aspect of aviation research and development. Wind tunnels, power plants, safety and fuel-savings are covered.			
<b>NASA AND LOOKING AHEAD AND BACK (1984)</b>	<b>29:00</b>	<b>9-Adult</b>	<b>E8</b>
Covers life-space tests for aircraft tires and a look at the future and what it may hold for NASA, as well as a look at past accomplishments.			
<b>NASA SETTING THE STAGE FOR THE FUTURE (1984)</b>	<b>28:00</b>	<b>9-Adult</b>	<b>E9</b>
Presents some of the projects NASA is slated to work on for the rest of the 1980s, including airplane computers and the XV-Tiltrotor.			
<b>NASA AND BEHIND THE SCENES AT THE NATIONAL AIR AND SPACE (1984)</b>	<b>29:00</b>	<b>9-Adult</b>	<b>E10</b>
Discusses the Smithsonian's National Air and Space Museum. E. T. Woolridge, Director of Aeronautics, discusses the museum's development.			
<b>NASA AND PROGRESS IN AERONAUTICS (1984)</b>	<b>29:00</b>	<b>9-Adult</b>	<b>E11</b>
Examines NASA's role in improving performance and safety of aircraft. The effects of airflow and turbulence on aircraft are presented.			
<b>THE AMES RESEARCH FLEET (1984)</b>	<b>29:00</b>	<b>9-Adult</b>	<b>E12</b>
Shows how various NASA Ames-based aircraft are used for research. The aircraft are used for astronomy, Earth studies and other research.			
<b>ASTOUNDED AT THE PAST (1987)</b>	<b>29:00</b>	<b>9-Adult</b>	<b>E13</b>
Reviews a montage of aviation research and technology development.			

## **HUMAN SPACE FLIGHT**

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>SPACE SHUTTLE OVERVIEW (1980)</b>	<b>30:00</b>	<b>7-12</b>	<b>F1</b>
Reports on the preparations for an early 1981 Space Shuttle launch. The program covers the mission, the flight crew training, rocket engine tests, problems involving the thermal protection system tiles and efforts of the NASA industry team during the final launch stages.			
<b>BEFORE SATURN AND AMERICA IN SPACE (1980)</b>	<b>30:00</b>	<b>7-12</b>	<b>F2</b>
Looks at the development of rockets from the early Chinese efforts through the development of the Saturn 1 booster.			
<b>ASTRONAUTS: U.S. PROJECT MERCURY (1960)</b>	<b>30:00</b>	<b>7-12</b>	<b>F3</b>
Reports on the original Mercury astronauts. Explains their selection, testing and training for America's first manned space program.			
<b>FREEDOM 7 (1961)</b>	<b>30:00</b>	<b>7-12</b>	<b>F4</b>
Documents the first American manned space mission. Covers the training, preparation, launching, and recovery of astronaut Alan B. Shepard, Jr. for the first Project Mercury sub-orbital flight.			
<b>FRIENDSHIP 7 PART I (1962)</b>	<b>30:00</b>	<b>7-12</b>	<b>F5</b>
Illustrates a historical documentary illustrating in detail the first American orbital space flight by astronaut John Glenn in 1962. The program also provides background on Project Mercury and the tracking network planned for the one-man Mercury missions.			
<b>FRIENDSHIP 7 PART II (1980)</b>	<b>30:00</b>	<b>7-12</b>	<b>F6</b>
Illustrates in detail the first American orbital space flight by astronaut John Glenn in 1962. The program also provides background on Project Mercury and the tracking network planned for the one-man Mercury missions.			
<b>YOUR SHARE IN SPACE (1980)</b>	<b>30:00</b>	<b>7-12</b>	<b>F7</b>
Relates space science discoveries and their application in the daily lives of citizens.			
<b>LEGACY OF GEMINI (1967)</b>	<b>30:00</b>	<b>7-12</b>	<b>F8</b>
Illustrates the major accomplishments of the Gemini two-man space flights and the significance of these flights to the Apollo program.			
<b>DEBRIEFING - APOLLO 8 (1969)</b>	<b>30:00</b>	<b>7-12</b>	<b>F9</b>
Illustrates the story of mankind's first orbit around the Moon as told with commentary on the significance of the Apollo 8 flight by several prominent Americans.			

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>THE EAGLE HAS LANDED FLIGHT OF APOLLO 11 (1969)</b>	<b>30:00</b>	<b>7-12</b>	<b>F10</b>
Describes the story of man's first moon landing in July of 1969.			
<b>APOLLO 16 - NOTHING SO HIDDEN (1972)</b>	<b>30:00</b>	<b>7-12</b>	<b>F11</b>
Reviews the documentary account of the Apollo 16 lunar landing mission and exploration in the highland region of the moon, near the crater Descartes.			
<b>FOUR ROOMS EARTHVIEW (1975)</b>	<b>30:00</b>	<b>7-12</b>	<b>F12</b>
Tells the story of the three missions, the nine astronauts and their 171 days in the manned laboratory. Crisscrossing 70 percent of Earth's land area, Skylab sensors gathered information about many features of the planet. Skylab was the first U. S. manned space station.			
<b>THE MISSION OF APOLLO/SOYUZ (1975)</b>	<b>30:00</b>	<b>7-12</b>	<b>F13</b>
Tells the story of the Apollo/Soyuz mission. The program stresses the spirit of cooperation and friendship that helped make the mission a success.			
<b>TEACHER SILENT VIDEO LESSON GUIDE (1980)</b>		<b>7-12</b>	<b>F14</b>
Consists of questions, definitions and student activities that teachers can use to plan lessons around the "History of Space Travel" series.			
<b>APOLLO 13: "HOUSTON, WE'VE GOT A PROBLEM" (1970)</b>	<b>28:00</b>	<b>6-Adult</b>	<b>F15</b>
Depicts the dramatic voyage of Apollo 13. The most serious accident to occur in space changed the mission from a lunar landing to a desperate fight for crew survival.			

## HUMAN SPACE FLIGHT APOLLO MOONWALK SERIES

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>THE DAY BEFORE (1970)</b>	<b>30:00</b>	<b>9-Adult</b>	<b>G1</b>
Highlights the mood of the people that surrounded the long awaited Apollo 11 Mission. This unprecedented journey captured the heart of all America as well as the world.			
<b>ADAPTING TO A SPACE ENVIRONMENT (1970)</b>	<b>30:00</b>	<b>4-Adult</b>	<b>G2</b>
Discusses the testing procedures Apollo operators used to simulate the space environment to make sure the astronauts would survive outside of Earth's atmosphere. It also examines the function of the different stages of the Moon rocket.			
<b>ONE SMALL STEP (1970)</b>	<b>30:00</b>	<b>4-Adult</b>	<b>G3</b>
Looks at the magic Neil Armstrong created when he made that historical step on the Moon's surface. We listen to people from around the world voice their opinions about the success of the Apollo 11 mission and what it means to them.			
<b>THE MOON ON EARTH (1970)</b>	<b>30:00</b>	<b>4-Adult</b>	<b>G4</b>
Examines the research conducted by the scientists on the moon rocks after Apollo 11 returns to Earth. Studies reveal the different aspects of the moon's characteristics.			

## LIFE SCIENCE

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>ANIMAL PHYSIOLOGY IN SPACE (1994)</b> Discusses the frog embryology experiment.	<b>11:30</b>	<b>4-8</b>	<b>H1</b>
<b>THE CARDIOVASCULAR SYSTEM IN SPACE (1994)</b> Provides a detailed account of the effects of gravity on the human circulatory system. Discusses how the loss of gravity-induced blood pressure gradients lead to medical problems associated with headward edema, reduced blood volume, and post flight orthostatic intolerance.	<b>18:00</b>	<b>4-Adult</b>	<b>H2</b>
<b>SCIENCE IN SPACE: FUNDAMENTALS BIOLOGY ON STS-107</b> Basics of life, materials, and energy has yielded an astonishing range of answers and capabilities. It also has yielded new questions that require more sophisticated investigations to understand and apply the subtle, elegant workings of the inner universe. Many investigations have been stymied by inescapable effects of Earth's gravity. But the last half-century also saw scientists start using the microgravity of orbit to turn those effects off and thus unmask basic phenomena that play key roles in biology, physics, and chemistry on Earth as well as space. STS-107 is a Shuttle mission dedicated to research investigating human physiology, fire suppression, and other areas of research relevant to people across the globe	<b>22:00</b>	<b>5-ADULT</b>	<b>H3</b>

## LIFTOFF TO LEARNING VIDEO TAPES

	Run Time	Grade	Cat. #
<b>LIFTOFF TO LEARNING SERIES</b>	<b>120:00</b>	<b>6-Adult</b>	<b>J1</b>
Consists of Space Basics, Go for Eva, Newton in Space, All Systems Go, Atmosphere Below, and Voyage of Endeavor.			
<b>NEWTON IN SPACE (1992)</b>	<b>12:35</b>	<b>6-8</b>	<b>J2</b>
Demonstrates the importance of Newton's Laws of Motion to space flight. Orbital scenes were taken during STS-39 mission.			
<b>SPACE BASICS (1991)</b>	<b>22:00</b>	<b>6-8</b>	<b>J3</b>
Discusses how astronauts aboard Shuttle mission STS-41 use computer graphics and visual demonstrations to answer three basic questions about space flight.			
<b>GO FOR EVA (1991)</b>	<b>14:00</b>	<b>6-8</b>	<b>J4</b>
Discusses the reasons for wearing spacesuits during space walking missions, how spacesuits work and what kind of jobs astronauts perform while space walking.			
<b>ATMOSPHERE BELOW (1992)</b>	<b>16:00</b>	<b>6-8</b>	<b>J5</b>
Discusses how changes in the Earth's atmosphere are investigated from outer space onboard the shuttle using the Atmospheric Laboratory for Applications and Science (ATLAS 1).			
<b>ALL SYSTEMS GO (1992)</b>	<b>34:00</b>	<b>6-8</b>	<b>J6</b>
Discusses some of the physiological changes that occur in the human body while in a microgravity environment. Astronauts in orbit during the Spacelab Life Sciences-1 mission are in this film.			
<b>VOYAGE OF ENDEAVOR THEN AND NOW (1992)</b>	<b>20:00</b>	<b>6-8</b>	<b>J7</b>
Compares the vessels and voyages of the sea-going "Endeavor." Orbital scenes were taken during the STS-49 mission in May of 1992.			
<b>LIVING IN SPACE (1994)</b>	<b>10:00</b>	<b>K-3</b>	<b>J8</b>
Describes and compares the daily routine of living on board the Space Shuttle.			
<b>FROM UNDERSEA TO OUTERSPACE (1994)</b>	<b>15:00</b>	<b>5-9</b>	<b>J9</b>
Describes a life science experiment using jellyfish. Because of their small and rapid growth cycle, results of the experiment have provided scientists with a unique window into the process of living things adapting to microgravity.			

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>TETHERED SATELLITE FORCES AND MOTION (1995/97)</b>	<b>21:11</b>	<b>9-12</b>	<b>J10</b>
Demonstrates and explains the application of forces and motion as they relate to tethered satellite deployment.			
<b>IMAGES OF EARTH AND SPACE (1996)</b>	<b>18:00</b>	<b>3-12</b>	<b>J11</b>
Shows colorful scientific visualizations of natural and physical phenomena.			
<b>IMAGES OF EARTH AND SPACE II (1998)</b>	<b>34:00</b>	<b>9-Adult</b>	<b>J12</b>
<b>MATHEMATICS OF SPACE RENDEZVOUS (1998)</b>	<b>17:00</b>	<b>5-12</b>	<b>J13</b>
Demonstrates the mathematical operations needed to enable the crew of STS-84 to rendezvous with the Russian Mir Space Station.			
<b>GEOGRAPHY FROM SPACE (1997)</b>	<b>15:00</b>	<b>K-8</b>	<b>J14</b>
Takes the viewer on a rapid tour of Earth's surface as seen from outer space. After explaining how the altitude of the viewer affects the amount of Earth's surface seen at one time, the video moves on to some of the interesting features of Earth's continents as seen from space. Because the inclination of the Space Shuttle's orbit to Earth's equator did not carry the crew over Antarctica or the Arctic, these are not visited in the program.			
<b>GEOGRAPHY FROM SPACE (1997) CLOSED CAPTION</b>	<b>15:00</b>	<b>K-8</b>	<b>J15</b>
Takes the viewer on a rapid tour of Earth's surface as seen from outer space. After explaining how the altitude of the viewer affects the amount of Earth's surface seen at one time, the video moves on to some of the interesting features of Earth's continents as seen from space. Because the inclination of the Space Shuttle's orbit to Earth's equator did not carry the crew over Antarctica or the Arctic, these are not visited in the program.			
<b>PLANTS IN SPACE (1999)</b>	<b>13:00</b>	<b>5-12</b>	<b>J16</b>
Shows students at an elementary school participating in an experiment on plant growth. This experiment was conducted with Space Shuttle astronauts. A video resource guide is available to provide data on the experimental plants grown in space.			
<b>LET'S TALK ROBOTICS</b>	<b>14:00</b>	<b>5-12</b>	<b>J17</b>
Introduces the use of robotics in space exploration. Astronauts demonstrate robotic arms and free-flying cameras on the Space Shuttle. Viewers also get to see some of NASA's robotics laboratories.			

**Run Time**

**Grade**

**Cat. #**

**ASSIGNMENT SPACELAB**

**16:05**

**5-8**

**J18**

Shows how the unique microgravity environment of Earth orbit is used for scientific experiments and how the rules of scientific experimentation and safety that apply to research on Earth also apply to astronauts in space.

## LIVING AND WORKING IN SPACE

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>ASTROSMILES (1986)</b> Consists of a collection of humorous moments from various Space Shuttle mission films.	<b>24:00</b>	<b>4-Adult</b>	<b>K1</b>
<b>EATING AND SLEEPING IN SPACE (1985)</b> Discusses how astronauts eat and sleep onboard the Space shuttle. Narrated by Dr. Sally Ride.	<b>30:00</b>	<b>4-12</b>	<b>K2</b>
<b>TOYS IN SPACE II (1993)</b> Demonstrates the actions of a variety of children's toys in microgravity.	<b>37:50</b>	<b>K-12</b>	<b>K3</b>
<b>TOYS IN SPACE II (1993) CLOSED CAPTIONED</b> Demonstrates the actions of a variety of children's toys in microgravity.	<b>37:50</b>	<b>K-12</b>	<b>K4</b>
<b>NASA SPACE SUIT (1990)</b> Examines the evolution and design of the NASA spacesuit from a 1930 pressure suit used by aviator Wiley Post to the current extravehicular maneuvering unit used on the Space Shuttle.	<b>15:00</b>	<b>7-Adult</b>	<b>K5</b>
<b>MARS, WHAT WOULD YOU WEAR? (1998)</b> Depicts what an astronaut might wear to Mars. This is a humorous presentation designed to get students thinking about Mars. Hosted by Johnson Space Center engineer Phil West.	<b>3:00</b>	<b>K-12</b>	<b>K6</b>
<b>REALLY HEAVY PANTS:</b> Previews 7 short videos as part of NASA engineer Phil West's presentation "It's Hard to Dance in a Spacesuit," a fun look at the suits and tools astronauts use in space. Written at about the middle school level, the videos have been used in a wide variety of audiences and age groups, mostly from the 3rd grade through professional associations. They can be used individually or as a group and are provided on one tape by popular demand.	<b>11:00</b>	<b>3-ADULT</b>	<b>K7</b>

## LIVING AND WORKING IN SPACE

### INTERNATIONAL SPACE STATION

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>INTERNATIONAL SPACE STATION VIDEO PROGRESS REPORT - A HOME IN SPACE</b>	<b>12:00</b>	<b>7-12</b>	<b>L1</b>
Outlines the assembly and docking sequence of the completed flights of the International Space Station through July of 1999. Also touches upon the logistics of forthcoming missions as the assembly process continues through completion.			
<b>INTERNATIONAL SPACE STATION - SOME ASSEMBLY REQUIRED (1999)</b>	<b>60:00</b>	<b>6-12</b>	<b>L2</b>
Shows astronaut training around the world, the basics of living and working in space, a look inside the ISS modules and how they work, current research in microgravity and the benefits for life on Earth. This program is a videotape of a live teleconference broadcast in February 1999.			
<b>INTERNATIONAL SPACE STATION - MEET ME AT THE STATION SERIES PROGRAM I (2000)</b>	<b>15:00</b>	<b>4-8</b>	<b>L3</b>
Provides an overview of the International Space Station. Topics discussed include: the history of space stations, who is involved with the ISS project, what the ISS will be used for, dimensions, power supply and the teamwork involved in this multi-national program.			
<b>INTERNATIONAL SPACE STATION VIDEO PROGRESS REPORT OCTOBER 2000</b>	<b>12:00</b>	<b>7-12</b>	<b>L4</b>
Outlines the assembly and docking of the completed flights of the International Space Station through October 2000. Also touches upon the logistics of forthcoming missions as the assembly process continues through completion.			
<b>INTERNATIONAL SPACE STATION: THE VISION AND MISSION (2001)</b>	<b>8:00</b>	<b>5-ADULT</b>	<b>L5</b>
Highlights a human outpost in space, an era of discovery and achievement that is unique, ambitious and visionary. The ISS is dedicated to the peaceful pursuit of space exploration.			

# MATHEMATICS

## PROJECT MATHEMATICS

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>THE STORY OF PI ((1990)</b>	<b>30:00</b>	<b>9-12</b>	<b>M1</b>
Explains the story of Pi with computer animation. The tape weaves a historical perspective showing how the number Pi (the ratio of the circumference to the diameter of any circle) appears in formulas for round objects and in contexts that seem to have no relation to geometry.			
<b>SIMILARITY (1990)</b>	<b>25:00</b>	<b>9-12</b>	<b>M2</b>
Explains Similarity with computer animation. Shows example of similar objects from real life. Introduces scaling, the basis of all measurement and shows its use in geometry, science and technology.			
<b>POLYNOMIALS (1991)</b>	<b>30:00</b>	<b>9-12</b>	<b>M3</b>
Opens by showing examples of polynomial curves that appear in real life followed by a systematic description of polynomials by degree. Uses computer animation to discuss lines, quadratic and cubic polynomials and addresses the intersections of lines and parabolas.			
<b>SPACE FLIGHT: THE APPLICATION OF ORBITAL MECHANICS (1989)</b>	<b>35:00</b>	<b>9-12</b>	<b>M4</b>
Details the explanation of planetary motion or orbital mechanics. Following a brief look at early theories of planetary orbits, animation is used to illustrate various mathematical equations and theories including Kepler's Laws of Planetary Motion and Newton's Laws of Motion. Explains many terms associated with orbits including perigee, apogee, eccentricity, orbital inclination, launch window, etc.			
<b>SINES AND COSINES PART I (1992)</b>	<b>30:00</b>	<b>9-12</b>	<b>M5</b>
Uses computer animation to give examples of the theory behind Sine and Cosine and their uses.			
<b>SINES AND COSINES PART II (1993)</b>	<b>30:00</b>	<b>9-12</b>	<b>M6</b>
Continues with examples of the theory behind Sine and Cosine and their uses.			

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>SINES AND COSINES PART III (1994)</b>	<b>30:00</b>	<b>9-12</b>	<b>M7</b>
Uses computer animation to continue explaining the theory behind Sine and Cosine and their uses.			
<b>THE THEOREM OF PYTHAGORAS (1988)</b>	<b>21:12</b>	<b>9-12</b>	<b>M8</b>
Takes the commonly known theorem and treats it with computer animation and makes it easy to understand.			
<b>THE TUNNEL OF SAMOS (1995)</b>	<b>30:00</b>	<b>9-12</b>	<b>M9</b>
Begins with a brief review of prerequisites dealing with a property of similar triangles introduced in a previous module on Similarity. The Tunnel of Samos module tells the story of one of the greatest engineering feats of the ancient world.			

## **NASA CONNECT VIDEO SERIES**

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>NASA CONNECT VIDEO SERIES (1998-1999)</b>	<b>150:00</b>	<b>K-4</b>	<b>N1</b>
Contains teacher guide and four programs for students in grades K-4.			

### **TEACHER GUIDE FOR CONNECT VIDEO SERIES GRADES K-4**

Provides the teacher with information about the Connect Video Series on math and science.

#### **PROGRAM 1**

##### **FLIGHT DIRECTION (1997)**

**K-4**

Teaches students how research teams of NASA engineers, technicians and pilots must work together to complete large projects involving airplanes. This video will allow you to observe students from McIntosh Elementary School (Newport News, VA) as they conduct a paper airplane experiment in which different flight conditions are tested and changed.

#### **PROGRAM 2**

##### **PLANETARY LANDERS (1997)**

**K-4**

Instructs students on exploring the design considerations that go into constructing a planetary lander and also examining the mathematics behind the landing process. They will observe students conducting an experiment to investigate mass and velocity, in which different objects are dropped onto a “martian” surface.

#### **PROGRAM 3**

##### **EARTH FROM SPACE (1997)**

**K-4**

Discusses how scientists have used satellites to study the impact of human activities on the global climate and the mathematics behind the collected data from the space-based instruments to study Earth's environment. Students will observe featured student “researchers” from the Portsmouth Public Schools (Portsmouth, VA) conducting an experiment to investigate the differences in distances traveled by rubber-band rockets when the launch angle and the amount of force vary.

#### **PROGRAM 4**

##### **DOING MORE IN LESS (1997)**

**K-4**

Explores the concept of microgravity. Students will observe featured student “researchers” from the Williamsburg-James City Schools and the York County Schools conducting an experiment to investigate the effects of varying the amount of fuel (fizzing antacid tablets) to the difference in time from fuel ignition to landing.

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>NASA CONNECT VIDEO SERIES (1998-1999)</b>	<b>150:00</b>	<b>5-8</b>	<b>N2</b>
Contains teacher guide and four programs for students in grades 5-8.			

**TEACHER GUIDE FOR  
CONNECT VIDEO SERIES  
GRADES 5-8**

**5-8**

Provides the teacher with information about the Connect Video Series on math and science.

**PROGRAM 1**

**FLIGHT DIRECTION (1997)**

**5-8**

Teaches students how research teams of NASA engineers, technicians and pilots must work together to complete large projects involving airplanes. This video will allow you to observe students from McIntosh Elementary School (Newport News, VA) as they conduct a paper airplane experiment in which different flight conditions are tested and changed.

**PROGRAM 2**

**PLANETARY LANDERS (1997)**

**5-8**

Instructs students on exploring the design considerations that go into constructing a planetary lander and also examining the mathematics behind the landing process. They will observe students conducting an experiment to investigate mass and velocity, in which different objects are dropped onto a “martian” surface.

**PROGRAM 3**

**EARTH FROM SPACE (1997)**

**5-8**

Discusses how scientists have used satellites to study the impact of human activities on the global climate and the mathematics behind the collected data from the space-based instruments to study Earth’s environment. Students will observe featured student “researchers” from the Portsmouth Public Schools (Portsmouth, VA) conducting an experiment to investigate the differences in distances traveled by rubber-band rockets when the launch angle and the amount of force vary.

**PROGRAM 4**

**DOING MORE IN LESS (1997)**

**5-8**

Explores the concept of microgravity. Students will observe featured student “researchers” from the Williamsburg-James City Schools and the York County Schools conducting an experiment to investigate the effects of varying the amount of fuel (fizzing antacid tablets) to the difference in time from fuel ignition to landing.

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>NASA CONNECT VIDEO SERIES</b>	<b>150:00</b>	<b>4-8</b>	<b>N3</b>
Contains four programs for students in grades 4-8.			
<b>PROGRAM 1</b>			
<b>PLANE WEATHER (1998)</b>		<b>4-8</b>	
Involves students in the examination of aviation safety. Introduces students to the math and science behind aviation weather and demonstrates how meteorological conditions such as icing influence flight.			
<b>PROGRAM 2</b>			
<b>SHAPES OF FLIGHT (1998)</b>		<b>4-8</b>	
Involves students in the examination of the interaction between mathematics, science, and technology as they look at the process of airplane design.			
<b>PROGRAM 3</b>			
<b>WHEREVER YOU GO, THERE YOU ARE (1999)</b>		<b>4-8</b>	
Introduces students to the science of navigation and involves them in observing, measuring and interpreting data to determine exact locations. They will learn how Global Positioning Satellites (GPS) now make navigation much easier and safer for civil, commercial and military pilots.			
<b>PROGRAM 4</b>			
<b>RECIPES FOR THE FUTURE (1999)</b>		<b>4-8</b>	
Focuses on the physical properties of materials, mixtures and compounds. Students are introduced to the various measuring and testing techniques used to develop “composite” materials for airplanes and space vehicles.			
<b>PROGRAM 5</b>			
<b>QUIETING THE SKIES (1999)</b>		<b>4-8</b>	
Introduces students to the science of sound and involves students in observing, measuring, and interpreting data to determine what sound is, how sound travels, and how to control sound. NASA researchers will show students how math and science are applied in the research to control aircraft noise.			
<b>RECIPES FOR THE FUTURE (1999)</b>	<b>30:00</b>	<b>4-8</b>	<b>N4</b>
Focuses on the physical properties of materials, mixtures and compounds. Students are introduced to the various measuring and testing techniques used to develop “composite” materials for airplanes and space vehicles.			

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>QUIETING THE SKIES (1999)</b>	<b>30:00</b>	<b>4-8</b>	<b>N5</b>
Introduces students to the science of sound and involves students in observing, measuring, and interpreting data to determine what sound is, how sound travels, and how to control sound. NASA researchers will show students how math and science are applied in the research to control aircraft noise.			
<b>TOOLS OF THE AERONAUTICS TRADE (1999)</b>	<b>30:00</b>	<b>4-8</b>	<b>N6</b>
Explores the concept of measurement and the tools used in measuring things, while learning “what” and “how” engineers and scientists use measurement during the process of developing, designing and testing airplanes.			
<b>ATMOSPHERIC DETECTIVES (1999)</b>	<b>30:00</b>	<b>4-8</b>	<b>N7</b>
Discusses how scientists use satellites, lasers, optical detectors, and wavelengths of light to measure the presence of certain gaseous elements, compounds, and aerosols in the Earth's atmosphere.			
<b>GEOMETRY OF EXPLORATION: WATER BELOW THE SURFACE OF MARS? (1999)</b>	<b>30:00</b>	<b>4-8</b>	<b>N8</b>
Discusses how geometry, geometric shapes and navigation are used to explore Mars. They will join NASA engineers and scientists who seek to answer the age-old question, “Is there water below the Martian surface?”			
<b>GEOMETRY OF EXPLORATION: EYES OVER MARS (2000)</b>	<b>30:00</b>	<b>4-8</b>	<b>N9</b>
Examines how the principles of geometry and linear and angular measurements are used to survey and map the Earth and planets such as Mars.			
<b>PROPORTIONALITY: THE X-PLANE GENERATION (2000)</b>	<b>30:00</b>	<b>4-8</b>	<b>N10</b>
Discusses why scaling and proportion are important factors in spacecraft design.			
<b>PROPORTIONALITY: MODELING THE FUTURE (2000)</b>	<b>30:00</b>	<b>4-8</b>	<b>N11</b>
Examines how patterns, measurement, ratios and proportions are used in the research, development, and production of airplanes.			
<b>ALGEBRA: MIRROR, MIRROR ON THE UNIVERSE (2000)</b>	<b>30:00</b>	<b>4-8</b>	<b>N12</b>
Discusses how algebra is used to explore the universe.			

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>MEASUREMENT, RATIOS, AND GRAPHING (2000)</b> Teaches students how NASA researchers measure and collect data, develop ratios and graphs to analyze their data, compare their results, and predict possible solutions for their real-world problems. Students will learn the history of the National Aeronautics and Space Administration.	<b>30:00</b>	<b>5-8</b>	<b>N13</b>
<b>MEASUREMENT, RATIOS, AND GRAPHING (2000) CLOSED CAPTIONED</b> Teaches students how NASA researchers measure and collect data, develop ratios and graphs to analyze their data, compare their results, and predict possible solutions for their real-world problems. Students will learn the history of the National Aeronautics and Space Administration.	<b>30:00</b>	<b>5-8</b>	<b>N14</b>
<b>GEOMETRY AND ALGEBRA: GLOW WITH THE FLOW (2000)</b> Teaches students about the force of drag and how NASA engineers use models and glowing paints to see how air flows over vehicles in a wind tunnel. Students will also discover how the blended wing body (BSB), a concept super jumbo jet that resembles a flying wing, will affect air travelers of the future. Students will also observe NASA engineers using geometry and algebra when they measure and design models to be tested in tunnels.	<b>30:00</b>	<b>5-8</b>	<b>N15</b>
<b>FUNCTIONS AND STATISTICS: INTERNATIONAL SPACE STATION: UP TO US (2000)</b> Teaches students about the International Space Station (ISS), why it is being built, and how it provides first-hand experiences with the space program. NASA engineers will discuss several components of the ISS, their functions, and the different types of research being conducted in the station's unique, microgravity environment.	<b>30:00</b>	<b>5-8</b>	<b>N16</b>
<b>PATTERNS, FUNCTIONS, AND ALGEBRA: WIRED FOR SPACE (2000)</b> Teaches students how patterns, functions and algebra can help NASA engineers design new ways of propelling spacecraft and how electricity and magnetism are being used to replace the fuel-consuming rocket propulsion commonly used to deliver a push to spacecraft.	<b>30:00</b>	<b>5-8</b>	<b>N17</b>

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<p><b>DATA ANALYSIS AND MEASUREMENT: AHEAD, ABOVE THE CLOUDS (2000)</b></p> <p>Teaches students about hurricanes and how meteorologists, weather officers, and NASA researchers use measurement and data analysis to predict severe weather such as hurricanes. Students will also discover how the Geostationary Imaging Fourier Transform Spectrometer (GIFTS) will enable people to avoid the loss of life and property by warning them of approaching hazardous weather.</p>	<b>30:00</b>	<b>5-8</b>	<b>N18</b>
<p><b>GEOMETRY AND ALGEBRA THE FUTURE OF FLIGHT EQUATION</b></p> <p>Teaches students how NASA engineers develop experimental aircraft. They will learn about the Hyper-X Research Vehicle, an experimental plane that uses scramjet engine technology to propel itself to ten times the speed of sound. They will observe NASA engineers using geometry and algebra when they measure and design models to be tested in wind tunnels.</p>	<b>30:00</b>	<b>5-8</b>	<b>N19</b>
<p><b>DATA ANALYSIS AND MEASUREMENT: HAVING A SOLAR BLAST (2002)</b></p> <p>Discusses how NASA engineers and researchers use data analysis and measurement to predict solar storms, anticipate how they will affect the Earth, and improve our understanding of the Sun-Earth system.</p>	<b>29:00</b>	<b>5-8</b>	<b>N20</b>
<p><b>FUNCTIONS AND STATISTICS: DRESSED FOR SPACE</b></p> <p>Discusses the past, present and future space suits that astronauts wear. Students will learn why sizing a space suit is critical for astronauts working in space. They will also be introduced to three advanced space suit prototypes: the H-Suit, I-Suit, and D-Suit.</p>	<b>29:00</b>	<b>5-8</b>	<b>N21</b>
<p><b>THE CENTENNIAL OF FLIGHT SPECIAL EDITION: THE “WRIGHT” MATH</b></p> <p>Teaches students about the evolution of flight. They will learn how the Wright Brothers became the first human beings to successfully design, construct and fly an airplane. They will also be introduced to NASA’s Morphing Project, a radically new approach to designing aircraft of the future.</p>	<b>30:00</b>	<b>6-8</b>	<b>N22</b>
<p><b>MEASUREMENT, RATIOS, AND GRAPHING: WHO ADDED THE “MICRO” TO GRAVITY?</b></p> <p>Discusses combustion science and the importance of fire safety on the International Space Station. Students will also learn how chemistry plays an important role in microgravity research.</p>	<b>30:00</b>	<b>6-8</b>	<b>N23</b>

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>SPECIAL EDITION: WORLD SPACE CONGRESS 2002: THE NEW FACE OF SPACE</b>	<b>30:00</b>	<b>6-8</b>	<b>N24</b>
<p>Discusses the World Space Congress 2002. The World Space Congress is the "meeting of the decade for space professionals." From the discovery of distant planets to medical advancements, from geological exploration to urban planning, from water on Mars to energy sources in developing nations, you'll find it all here. Students will also have an unprecedented look at how advances in space can and do improve life on Earth.</p>			
<b>FESTIVAL OF FLIGHT SPECIAL: OPENING SPACE FOR NEXT GENERATION EXPLORERS</b>	<b>30:00</b>	<b>6-8</b>	<b>N25</b>
<p>Discusses NASA's Space Launch Initiative (SLI) Program. This program will ultimately move the nation from the explorations of the Mercury, Gemini, Apollo, and Space Shuttle missions to a new period of pioneering when people and businesses are more routinely traveling, working, and living in space.</p>			
<b>DATA ANALYSIS AND MEASUREMENT: DANCING IN THE NIGHT SKY</b>	<b>30:00</b>	<b>6-8</b>	<b>N26</b>
<p>Discusses how NASA engineers and researchers use data analysis and measurement to study the auroras, key regions of the Earth's geospace or space environment.</p>			
<b>VIRTUAL EARTH</b>	<b>30:00</b>	<b>6-8</b>	<b>N27</b>
<p>Introduces students to Earth system science. They will learn what a system is and how to apply the concept of systems to learn more about how the Earth functions. Students will understand the only way to really comprehend the workings of our planet is to look at the Earth as a whole system.</p>			
<b>PSA, THE ASTRONAUT'S HELPER</b>	<b>30:00</b>	<b>6-8</b>	<b>N28</b>
<p>Using geometry and algebra, NASA engineers develop and test the Personal Satellite Assistant (PSA), an autonomous robot to support future space missions.</p>			
<b>BETTER HEALTH FROM SPACE TO EARTH</b>	<b>30:00</b>	<b>6-8</b>	<b>N29</b>
<p>Helps students learn about the importance of good nutrition and exercise. They will investigate what we can learn in space about our bodies here on Earth.</p>			

## NASA ON THE CUTTING EDGE

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>SMALL BODIES, BIG IMPACT</b>			
<b>PROGRAM 1:</b>			
<b>COOL COMETS (1999)</b>	<b>30:00</b>	<b>5-8</b>	<b>O1</b>
Looks at the dirty snowballs, which turn into the beautiful celestial bodies we can see from Earth. Viewers will go behind the scenes to discover high-tech NASA missions that will capture comet dust sample and bring them back to Earth.			
<b>SMALL BODIES, BIG IMPACT</b>			
<b>PROGRAM 2:</b>			
<b>AWESOME ASTEROIDS (1999)</b>	<b>30:00</b>	<b>5-8</b>	<b>O1</b>
Looks at the rocky bodies we call asteroids, one of which may have caused the extinction of the dinosaurs. Viewers will learn about space missions to orbit and map a near-Earth asteroid for the first time, helping to reveal clues about the formation of our solar system.			

## NASA “WHY?” FILES

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>THE CASE OF THE UNKNOWN STINK (2000)</b>	<b>60:00</b>	<b>3-5</b>	<b>P1</b>
Invites students to join the tree house detectives as they investigate “The Case of the Unknown Stink.” The tree house detectives accept the challenge of trying to find the source of an unpleasant odor that is invading surrounding neighborhoods. Detectives learn about the sense of smell.			
<b>THE CASE OF THE BARKING DOGS (2000)</b>	<b>60:00</b>	<b>3-5</b>	<b>P2</b>
Invites students to investigate the “Case of the Barking Dogs.” The tree house detectives accept the challenge of trying to find out why the neighborhood dogs have unexpectedly started barking early in the morning and late at night. Students learn the use of logic and sound reasoning.			
<b>THE CASE OF THE ELECTRICAL MYSTERY (2001)</b>	<b>60:00</b>	<b>3-5</b>	<b>P3</b>
Invites students to join the tree house detectives as they investigate “The Case of the Electrical Mystery.” Why is the electricity on in the tree house and why is the electricity off in all the houses on their block? In solving this case, our detectives learn about electricity and how it is generated. They also learn about electrical current, circuits, and distribution.			
<b>THE CASE OF THE CHALLENGING FLIGHT (2001)</b>	<b>60:00</b>	<b>3-5</b>	<b>P4</b>
Invites students to join the tree house detectives as they investigate “The Case of the Challenging Flight.” The tree house detectives decide that they need to build a better plane. They use their skills in scientific investigation to learn about the four forces of flight and then use their newfound knowledge as they design and construct a plane.			
<b>THE CASE OF THE MYSTERIOUS RED LIGHT (2001)</b>	<b>60:00</b>	<b>3-5</b>	<b>P5</b>
Invites students to accept the challenge of trying to find the cause of the unusual red sunrises and sunsets in their community. They use scientific inquiry and Problem-Based Learning to learn about light, volcanoes, and weather.			

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<p><b>THE CASE OF THE “WRIGHT” INVENTION (2001)</b></p> <p>Invites students to join the tree house detectives as they set out to learn about inventors. They get some help from Orville and Wilbur Wright. The tree house detectives are not sure whether these brothers are real or just actors. NASA researchers and other community experts help the tree house detectives learn how to plan, design, build and test their inventions. They discover that inventing is not as easy as they thought, even for Orville and Wilbur Wright.</p>	<b>60:00</b>	<b>3-5</b>	<b>P6</b>
<p><b>THE CASE OF THE PHENOMENAL WEATHER (2002)</b></p> <p>Invites students to join the tree house detectives as they plan a trip to the Caribbean and encounter problems trying to predict the weather. In this case, the tree house detectives will learn about violent storms such as hurricanes and tornadoes, weather fronts, global wind patterns, and climates. While solving the case, they will discover that predicting the weather is not predictable at all!</p>	<b>60:00</b>	<b>3-5</b>	<b>P7</b>
<p><b>THE CASE OF THE INHABITABLE HABITAT (2002)</b></p> <p>Invites students to join the tree house detectives as they accept the challenge of designing a habitat that can sustain life on Mars. In order to design an award winning habitat, the tree house detectives decide that they must first learn more about the planet Mars and the various habitats found here on Earth.</p>	<b>60:00</b>	<b>3-5</b>	<b>P8</b>
<p><b>THE CASE OF THE POWERFUL PULLEYS</b></p> <p>Invites students to join the tree house detectives as they use Problem-Based Learning to investigate the world of simple machines and physical science to get everyone back into the tree house after Jacob’s unfortunate accident. Jacob broke his foot and he is unable to climb the ladder to the tree house.</p>	<b>60:00</b>	<b>3-5</b>	<b>P9</b>
<p><b>THE CASE OF THE SHAKY QUAKE</b></p> <p>Invites students to join the tree house detectives as they decide to make the unexplained shake of their tree house the subject of their next case and set out to solve this mystery.</p>	<b>60:00</b>	<b>3-5</b>	<b>P10</b>
<p><b>THE CASE OF THE BIOLOGICAL BIOSPHERE</b></p> <p>Invites students to join the tree house detectives as Jacob is about to take a trip to foreign shores and is both excited and concerned. This trip is a chance of a lifetime and he doesn't want to get sick and miss it. Come help the detectives learn about the human body as they discover that no man, not even a kid, is an island.</p>	<b>60:00</b>	<b>3-5</b>	<b>P11</b>

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<p><b>THE CASE OF THE GALACTIC VACATION</b></p> <p>Invites students to join the tree house detectives go galactic with their latest project. Learn how long it will take to travel to Mars and how the Moon affects the Earth. Join the tree house detectives for an “out-of-this-world” vacation as they explore the future of space travel.</p>	<b>60:00</b>	<b>3-5</b>	<b>P12</b>
<p><b>THE CASE OF THE WACKY WATER CYCLE</b></p> <p>Invites students to join the tree house detectives discover why the water level has dropped in the reservoir. The detectives are a little confused because they have been unaware of any drought-like conditions that could have caused the lower water level in the reservoir.</p>	<b>60:00</b>	<b>3-5</b>	<b>P13</b>
<p><b>THE CASE OF THE DISAPPEARING DIRT</b></p> <p>Invites students to join the tree house detectives discover how important it is to find and replace the missing sand from their beach. The detectives are puzzled about the missing sand.</p>	<b>60:00</b>	<b>3-5</b>	<b>P14</b>
<p><b>THE CASE OF THE PRIZE-WINNING PLANTS</b></p> <p>Invites students to join the tree house detectives as they attempt to grow award-winning plants for the upcoming fair. The tree house becomes a green house as the detectives experiment with soil, plant and animal life cycles and genetics to grow the perfect plant.</p>	<b>60:00</b>	<b>3-5</b>	<b>P15</b>
<p><b>THE CASE OF THE RADICAL RIDE</b></p> <p>Invites students to join the tree house detectives as they work on their latest project on alternative forms of transportation. Join the crew as they learn about energy, composite materials, and technology in their quest for hassle-free traveling.</p>	<b>60:00</b>	<b>3-5</b>	<b>P16</b>

## PHYSICS

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>THE MICROGRAVITY DEMONSTRATOR (1998)</b>	<b>21:00</b>	<b>5-12</b>	<b>Q1</b>
Introduces a series of demonstrations used to provide a dramatically visual, physical connection between free-fall and microgravity conditions and to understand why various types of experiments are performed under microgravity conditions. The Microgravity Demonstrator is a tool to create microgravity conditions in your classroom.			

## **SATELLITES**

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>UARS: THE UPPER ATMOSPHERE RESEARCH SATELLITE</b>	<b>17:00</b>	<b>9-12</b>	<b>R1</b>

Studies the physical and chemical processes of the Earth's stratosphere, mesosphere, and lower thermosphere. UARS was launched on September 12, 1991, from the Space Shuttle Discovery (STS-48).

## SCIENCE AND TECHNOLOGY

### DESTINATION TOMORROW SERIES

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>PROGRAM 1 (2000)</b> Explains a basic aeronautical principal. Excellent resource for high school and adult learners.	<b>30:00</b>	<b>9-Adult</b>	<b>S1</b>
<b>PROGRAM 2 (2001)</b> Continues to explain basic aeronautical principals. Excellent resource for high school and adult learners.	<b>30:00</b>	<b>9-Adult</b>	<b>S2</b>
<b>PROGRAM 3 (2001)</b> Communicates knowledge resulting from NASA's aeronautics and space technology programs. NASA researchers discuss new and developing technologies that will benefit current and future generations. Excellent resource for high school and adult learners.	<b>30:00</b>	<b>9-Adult</b>	<b>S3</b>
<b>PROGRAM 4 (2001)</b> Discusses NASA's Hyper-X Program, a new scram jet engine design, lightweight materials stronger than steel and introduces a retired NASA engineer that was the father of hang gliding. Excellent resource for high school and adult learners.	<b>30:00</b>	<b>9-Adult</b>	<b>S4</b>
<b>PROGRAM 5 (2001)</b> Communicates knowledge resulting from NASA's aeronautics and space technology programs. NASA researchers discuss new and developing technologies that will benefit current and future generations. You will learn how NASA looks to the future of flight with the revolutionary airplane design with a blended wing body, engineers intentionally crash aircraft to unlock the secrets of safety and a retired NASA engineer helps men achieve supersonic flight at over 4,500 miles per hour. Excellent resource for high school and adult learners.	<b>30:00</b>	<b>9-Adult</b>	<b>S5</b>
<b>PROGRAM 6 (2002)</b> Communicates knowledge resulting from NASA's aeronautics and space technology programs. NASA researchers discuss new and developing technologies that will benefit current and future generations. This episode highlights new Mars exploration missions to help explain unanswered questions about the red planet; and new device developed at NASA to give parents a second set of eyes to keep children safer and a retired NASA engineer whose revolutionary design helped launch America into the space age. Excellent resource for high school and adult learners.	<b>30:00</b>	<b>9-Adult</b>	<b>S6</b>

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<p><b>PROGRAM 7 (2002)</b></p> <p>Builds on the premise that much of NASA's aeronautical research focuses on creating today's knowledge to solve tomorrow's problems. This program consists of five exciting segments. In the "Behind the Scenes" segment, viewers will learn about the new weather satellite which will greatly improve weather prediction; in the "Tech Watch" segment, viewers will learn about NASA's commercial invention of the year, the Ventricular Assist Device (VAD) which will potentially save millions of lives; meet Israel Taback, Chief Engineer for the Viking Mission in the "Retrospective" segment; see how NASA is making flying safer in the "On the Runway" segment; and find out how virtual reality works in the "How it Works" segment.</p>	<b>30:00</b>	<b>9-ADULT</b>	<b>S7</b>
<p><b>PROGRAM 8 (2002)</b></p> <p>Builds on the premise that much of NASA's aeronautical research focuses on creating today's knowledge to solve tomorrow's problems. This program consists of five exciting segments. In the "Behind the Scenes" segment, viewers will learn about the Materials International Space Station Experiment; in the "Tech Watch" segment, viewers will learn about a new catalytic converter developed by NASA which will help decrease pollution; viewers will learn about the important history of the Transonic Dynamics Tunnel (TDT) in the "Retrospective" segment; viewers see how NASA is making flying safer in the "On the Runway" segment; and viewers find out how lasers works in the "How it Works" segment.</p>	<b>30:00</b>	<b>9-ADULT</b>	<b>S8</b>
<p><b>PROGRAM 9 (2002)</b></p> <p>Builds on the premise that much of NASA's aeronautical research focuses on creating today's knowledge to solve tomorrow's problems. This program consists of five exciting segments. In the "Behind the Scenes" segment, viewers will learn about the HELIOS experimental airplane; in the "Tech Watch" segment, viewers will learn about a new breast cancer detection device developed by NASA which will help save lives; in the "Retrospective" segment; viewers will learn about Project Gemini; viewers will see how NASA is making flying quieter in the "On the Runway" segment; and viewers will find out how spacesuits work in the "How it Works" segment.</p>	<b>30:00</b>	<b>9-ADULT</b>	<b>S9</b>
<p><b>PROGRAM 10 (2003)</b></p> <p>Builds on the premise that much of NASA's aeronautical research focuses on creating today's knowledge to solve tomorrow's problems. This program consists of five exciting segments. In the "Behind the Scenes" segment, viewers will learn about how NASA is studying the Northern Lights; in the "Tech Watch" segment, viewers will learn about a parachute that is attached to a plane, rather than a person; viewers will learn about World War II aircraft in the "Retrospective" segment; viewers see new satellites which may help predict weather better in the "On the Runway" segment; and viewers find out how air traffic control works in the "How it Works" segment.</p>	<b>30:00</b>	<b>9-ADULT</b>	<b>S10</b>



## SPACE SCIENCES

### ASTRONOMY

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>COMET CHASERS: ON THE TRAIL OF A COMET</b>	<b>78:00</b>	<b>9-Adult</b>	<b>T1</b>
Focuses on a live conference celebrating the Comet Hale-Bopp flyby. The main focus of this program is a panel discussion with astronomers Alan Hale, Thomas Bopp, David Levy and Don Yeomans.			
<b>SECURITY BRIEFING FOR THE LUNAR METEORITE LOAN PROGRAM</b>	<b>9:30</b>	<b>5-12</b>	<b>T2</b>
Discusses the steps for obtaining the lunar and meteorite samples for use in the classroom.			
<b>UNIVERSE (1976)</b>	<b>30:00</b>	<b>4-Adult</b>	<b>T3</b>
Examines the planets with emphasis on Mars and Jupiter. Proceeds to explore our solar system, including galaxies, nebulae, pulsars, black holes and the sun.			
<b>MORE THAN YOUR EYES CAN SEE (2002)</b>	<b>7:00</b>	<b>5-8</b>	<b>T4</b>
Teaches about infrared light, the measurement of temperature; how night vision cameras see the invisible; fire departments have the ability to see through smoke and dust; and how they are able to detect forest fires through clouds and smoke.			
<b>THE VENUS TRANSIT</b>	<b>30:00</b>	<b>6-8</b>	<b>T5</b>
Teaches students the importance of using scale models to represent the size and distance of objects in the solar system and beyond. They will be introduced to the astronomical unit (AU), the baseline distance from the Earth to the Sun, which astronomers use to determine the relative distances from the Earth to other planets, stars, asteroids, and objects in space. They will also discover fascinating facts about the Venus Transit, a celestial and historical event, which helped astronomers determine the scale of the solar system. By conducting inquiry-based and web activities, students will make connections between NASA research and the mathematics, science, and technology they learn in their classrooms.			

## SPACE SCIENCES

### EXPLORATION

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>HUBBLE: THE FIRST DECADE</b> <b>CLOSED CAPTIONED</b>	<b>8:00</b>	<b>5-12</b>	<b>U1</b>
<p>Highlights Hubble's most significant contributions to astronomy and the world. Starting with the deployment of the Hubble to the repair missions and on to how the Hubble Space Telescope has become a "Black Hole Hunter" finding super massive black holes throughout the galaxies.</p>			
<b>HUBBLE REBORN</b>	<b>11:00</b>	<b>5-Adult</b>	<b>U2</b>
<p>Tells the story of the latest servicing mission to the Hubble Space Telescope in March 2002, culminating in the release of the new images from the Advanced Camera for Surveys (ACS). Produced by the Space Telescope Science Institute.</p>			

# SPACE SCIENCES

## GENERAL

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>WHAT'S IN THE NEWS: SPACE (12 PART SERIES) TAPE 1</b>	<b>60:00</b>	<b>4-ADULT</b>	<b>UA1</b>
<b>PROGRAM 1: BEYOND THE PLANET EARTH: THEN &amp; NOW</b> Chronicles the history and milestones of flight and rocketry from the myth of Icarus to satellites and the proposed International Space Station.			
<b>PROGRAM 2: EYES ON THE SKY: ASTRONOMY</b> Focuses on people's fascination with the universe and their study of it from stargazing with the unaided eye to scientific exploration using the Hubble Space Telescope.			
<b>PROGRAM 3: GRAVITY, A FORCE OF NATURE</b> Explains concepts of universal gravitation including microgravity and weightlessness with examples from Earth such as a roller coaster and from space such as acrobatics on Skylab and the Space Shuttle.			
<b>PROGRAM 4: SPACE SHUTTLE COUNTDOWN TO THE FUTURE</b> Looks at the Space Shuttle in detail: its design and functioning, how it is fueled and how it stays in orbit around the Earth.			
<b>TAPE 2</b>	<b>60:00</b>	<b>4-ADULT</b>	<b>UA2</b>
<b>PROGRAM 5: TEAMWORK IN SPACE</b> Looks at the numerous people involved in the launching of a spaceship and the completion of a successful mission.			
<b>PROGRAM 6: SPACESHIP EARTH</b> Explains and compares natural and artificial ecosystems using the ocean and a spacesuit as its two main examples. The program includes a piece-by-piece examination of a spacesuit with a spacesuit technician.			



# SPACE SCIENCES

## PLANETARY

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>OUR SOLAR SYSTEM (1992)</b>	<b>5:00</b>	<b>K-6</b>	<b>V1</b>
Teaches the names, orbital positions, and characteristics of each planet using the phrase “my very educated mother just served us nine pizza pies.” The program is animated, set to music, and appropriate for early elementary grades.			
<b>MAGELLAN - MAPPING THE PLANET VENUS (1991)</b>	<b>9:09</b>	<b>7-12</b>	<b>V2</b>
Uses simple terms to explain how the sophisticated radar instruments on Magellan actually map the planet and how the information is sent back to Earth simulated flight over the planet highlighting important surface features.			
<b>BEST OF JPL</b>	<b>120:00</b>	<b>7-12</b>	<b>V3</b>
Reviews the story and contributions of the Jet Propulsion Laboratory in Pasadena, CA.			
<b>ULYSSES: A VOYAGE TO THE SUN (1985)</b>	<b>10:00</b>	<b>9-Adult</b>	<b>V4</b>
Describes the mission, planned jointly by NASA and the European Space Agency, to explore the atmosphere around the sun. Using information obtained from Skylab, the program discusses the sun's corona and electromagnetic field, as well as solar wind and solar flares.			
<b>BLACKOUT! SOLAR STORMS AND THEIR EFFECT ON PLANET EARTH (1999)</b>	<b>19:00</b>	<b>5-Adult</b>	<b>V5</b>
Takes you on a journey from the Sun to the Earth as eruptions known as solar storms travel to Earth and effect our lives in ways we still don't completely understand. 3-D animations bring to life the journey, through 150 million kilometers of space.			
<b>COLORS OF THE SUN (2000)</b>	<b>22:00</b>	<b>5-8</b>	<b>V6</b>
Discusses the visible spectrum plus students will also study how astronomers use special tools to learn more about objects that are far away and observe how white light can be refracted to form a color spectrum that has a pattern.			

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>DESTINATION MARS (1997)</b>	<b>33:00</b>	<b>4-10</b>	<b>V7</b>
Depicts the first human mission to Mars in the year 2018. The story of the journey is told by the mission astronauts as they record entries in their journals. The program presents Mars geology and the search for life on the planet. It also illustrates the technologies being developed to transport humans to Mars and support life on the planet once humans have landed.			
<b>THE IDEA THAT NOBODY WANTED</b>	<b>30:00</b>	<b>9-ADULT</b>	<b>V8</b>
Highlights John Houbolt, an engineer at the NASA Langley Research Center. Hear about the history behind the Moon missions that might not have happened with his perseverance.			

## THAT NASA SHOW

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>PROGRAM 1: TORTILLAS IN SPACE (2001)</b>	<b>52:00</b>	<b>3-8</b>	<b>W1</b>

Gives students a light look into the serious subjects surrounding America's space program. Come aboard and see for yourself how the fine art of tortilla tossing in microgravity has been perfected.

**PROGRAM 2:  
SPACE WEAR (2001)**

Demonstrates an out-of-this-world fashion show. If you were suddenly called into service in space, what would you wear? Would you be able to go into your closet and pull out the "right stuff?"

## WEATHER

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>HURRICANE (1974)</b>	<b>28:00</b>	<b>7-10</b>	<b>X1</b>
Tracks an actual hurricane from its tame beginning in the Atlantic to its violent and deadly landfall at Galveston, Texas, in August 1983.			
<b>TERRIBLE TUESDAY</b>	<b>23:30</b>	<b>7-10</b>	<b>X2</b>
Takes us to Wichita Falls, Texas, to hear compelling stories of survivors from one of history's worse tornado outbreaks.			
<b>TORNADO BELOW (1975)</b>	<b>14:00</b>	<b>7-10</b>	<b>X3</b>
Presents the story of a student pilot's narrow escape from the path of a tornado. This program details the formation of tornados, their destructive capabilities, and the important role early-warning weather satellites play in predicting severe weather.			
<b>WEATHER WATCHERS (1977)</b>	<b>15:00</b>	<b>7-11</b>	<b>X4</b>
Explains the importance of meteorological information obtained from NASA satellites for predicting and monitoring severe storms. Presents unusual footage of the formation of a tornado and its destructive force.			
<b>SEA WINDS: CATCH THE WIND, THE QUICK SCAT STORY</b>	<b>26:00</b>	<b>9-12</b>	<b>X5</b>
Discusses the mission of the The Quik Scat mission. Quik Scat was launched on June 19, 1999. The Sea Winds instruments are designed to acquire accurate, high-resolution, continuous, all-weather measurements of global (land, ice and ocean) radar cross-section and near-surface vector winds over the ice-free global oceans. As the only instruments capable of measuring wind velocity-both speed and direction-under all-weather conditions, Sea Winds data is crucial for studies of tropospheric dynamics, upper-ocean circulation, and air-sea interaction. Sea Winds data will also be provided in near-real-time to the U. S. National Centers for Environmental Prediction (NCEP) for use in global and regional operational weather prediction.			

**NEW RELEASES**

**Run Time**

**Grade**

**Cat. #**

## **GULF OF MEXICO TAPES**

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>A PARTNERSHIP FOR ACTION</b>	<b>15:00</b>	<b>6-12</b>	<b>GM1</b>
Gives a brief but detailed description of “Take Action Plans” in order to enhance the Gulf of Mexico aquatic resources, seafood and waterfowl.			
<b>ALABAMA THE BEAUTIFUL</b>	<b>36:00</b>	<b>K-12</b>	<b>GM2</b>
Details all the major resources and historical sites found in Alabama.			
<b>AMERICA’S SHINING SEA</b>	<b>7:00</b>	<b>5-12</b>	<b>GM3</b>
Discusses wetlands, beaches, boating, waterfowl, fishing and other natural resources found along the Gulf of Mexico.			
<b>AMERICA’S WETLANDS</b>	<b>26:00</b>	<b>10-12</b>	<b>GM4</b>
Gives information on birds, waterfowl, marsh grasses and water quality and how all of these things are dependent upon our wetlands.			
<b>I NEED THE EARTH AND THE EARTH NEEDS ME</b>	<b>19:00</b>	<b>K-6</b>	<b>GM5</b>
Shows how the Earth is our home. All living things on Earth depend on each other and all need a quality environment.			
<b>LEND A HAND IN THE SAND</b>	<b>13:00</b>	<b>K-12</b>	<b>GM6</b>
Gives a realistic view on how marine debris endangers and even kills our marine friends in the oceans and coastal waters. It also informs us on how we can help in the battle to keep our beaches and streams clean.			
<b>MUSICAL SCIENCE TOUR</b>	<b>19:00</b>	<b>K-12</b>	<b>GM7</b>
Gives an exciting message of this energetic and creative video. It has a live musical band with sing-along songs.			
<b>RECYCLING</b>	<b>10:40</b>	<b>6-12</b>	<b>GM8</b>
Shows how people can help eliminate waste going to landfills. Recycle!			
<b>SEA CAMP 1989</b>	<b>25:00</b>	<b>K-6</b>	<b>GM9</b>
Previews a day at J. L. Scott Marine Laboratory in Biloxi, Mississippi. Actual footage showing students experiencing marine education project at the lab.			
<b>MAKING WAVES</b>	<b>21:00</b>	<b>5-12</b>	<b>GM10</b>
Discusses why we should care about the Gulf of Mexico.			

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>STATUS OF DUCKS</b> Gives technical information on the duck species and their habitat.	<b>21:00</b>	<b>10-12</b>	<b>GM11</b>
<b>“TAKE PRIDE GULFWIDE”</b> Presents an action plan for a clean Gulf of Mexico. It discusses how litter and marine debris affect our beaches and marine animals.	<b>18:00</b>	<b>6-12</b>	<b>GM12</b>
<b>TAKE PRIDE GULFWIDE TEXAS OFFICE</b> Explains how dependent we are on the Gulf.	<b>20:00</b>	<b>10-12</b>	<b>GM13</b>
<b>THE MARINE GANG AT SEMINOLE ELEMENTARY, LARGO, FLORIDA</b> Lists things we get from the sea such as lipstick, candy, ice cream, cat food, etc.	<b>40:00</b>	<b>K-6</b>	<b>GM14</b>
<b>TREASURE QUEST</b> Stars Lisa Lobster, Sally Shrimp, Drats, Gumby Grouper, Daisy Dolphin, Patty Pelican and Tony Turtle. All the marine characters discuss the environmental issues facing the Gulf.	<b>26:00</b>	<b>2-5</b>	<b>GM15</b>
<b>WATERFOWL FOR THE FUTURE</b> Teaches respect for our waterfowl by learning more about them through this guided tour on different types and their migration behavior.	<b>16:00</b>	<b>4-12</b>	<b>GM16</b>
<b>WETLAND FOR THE FUTURE</b> Explains what a wetland is and also the marshes, animals and all the other life living there in an easy-to-understand way.	<b>10:00</b>	<b>4-12</b>	<b>GM17</b>
<b>WETLAND IN CRISIS</b> Answers questions such as “What is the purpose of wetlands?”	<b>20:00</b>	<b>10-12</b>	<b>GM18</b>
<b>YEAR OF THE GULF OF MEXICO, 1992</b> Explains topics on habitat degradation and purchasing federal duck stamps from your local post office to support wetland acquisition.	<b>30:00</b>	<b>6-12</b>	<b>GM19</b>
<b>THE PETER W. ANDERSON AN ENVIRONMENTAL VOYAGE</b> Brings your students aboard an environmental voyage. See what the Anderson and her crew do everyday to help prevent pollution and measure its effects along America's coasts.	<b>8:30</b>	<b>4-12</b>	<b>GM20</b>

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>SAVING INKY</b> Discusses how volunteers try to determine why a baby pygmy sperm whale (“Inky”) beaches her self on the New Jersey shore. Watch as volunteers try to determine what was wrong with “Inky” and their desperate struggle to save her life.	<b>15:50</b>	<b>K-6</b>	<b>GM21</b>
<b>REVERSING THE TIDE</b> Documents, informs and educates our students on coastal erosion and coastal restoration efforts.	<b>15:00</b>	<b>4-12</b>	<b>GM22</b>
<b>NO SAFE HARBOR</b> Explores the condition of our waters and our fish from the eastern bays to the western sounds.	<b>19:03</b>	<b>4-12</b>	<b>GM23</b>
<b>FABULOUS WETLANDS</b> Gives humorous educational view of wetlands.	<b>7:00</b>	<b>4-12</b>	<b>GM24</b>
<b>GULF OF MEXICO PROGRAM</b>			
<b>FINDING SOLUTIONS</b> Discusses finding solutions to marine debris and its affect on the Gulf of Mexico.	<b>14:40</b>	<b>4-12</b>	<b>GM25</b>
<b>ADOPT A WATERSHED</b> Discusses curriculum for teachers who plan to implement an Adopt-a-Watershed program for students in grades K-12.	<b>8:32</b>	<b>4-12</b>	<b>GM26</b>
<b>ARANSAS SHORELINE</b>			
<b>PROTECTION</b> Discusses whooping cranes, shorelines and habitat restoration loss in Aransas, Texas.	<b>18:20</b>	<b>4-12</b>	<b>GM27</b>
<b>SARASOTA BAY</b>			
<b>RECLAIMING PARADISE</b> Reviews Sarasota Bay improvements and solution projects.	<b>14:00</b>	<b>4-12</b>	<b>GM28</b>
<b>AMERICA’S WETLANDS</b>			
<b>REVISED 1987</b> Views the wetlands in America and its positive impact on us.	<b>26:10</b>	<b>4-12</b>	<b>GM29</b>
<b>EPA - LESS IS MORE:</b>			
<b>POLLUTION PREVENTION</b>			
<b>IS GOOD BUSINESS</b> Discusses how pollution can be prevented.	<b>23:13</b>	<b>4-12</b>	<b>GM30</b>

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>COASTAL OCEAN IN CRISIS SCIENCE FOR SOLUTIONS A NOAA REPORT</b>	<b>14:25</b>	<b>4-12</b>	<b>GM31</b>
Explains NOAA's activities in finding solutions to coastal ocean impacts.			
<b>PRESERVE OUR BAY</b>	<b>5:00</b>	<b>4-12</b>	<b>GM32</b>
Explains a plan to keep Galveston Bay clean and healthy.			
<b>AMERICA'S PORTS AND WATERWAYS: OPEN CHANNELS TO TRADE</b>	<b>8:30</b>	<b>4-12</b>	<b>GM33</b>
Discusses the importance of ports and waterways and how they affect us.			
<b>WETLANDS AND STORMWATER</b>	<b>11:49</b>	<b>4-12</b>	<b>GM34</b>
Explains the effects of urban runoff to coastal wetlands in the Puget Sound.			
<b>TOXIC FISH - CNN REPORT</b>	<b>22:00</b>	<b>9-12</b>	<b>GM35</b>
Shows CNN news footage of toxic fish.			
<b>YOUR BAY TODAY AND TOMORROW</b>	<b>18:00</b>	<b>9-12</b>	<b>GM36</b>
Discusses Narragansett Bay's water quality and current condition.			
<b>UNDERSTANDING SEWAGE TREATMENT AND DISPOSAL SYSTEMS</b>	<b>18:00</b>	<b>9-12</b>	<b>GM37</b>
Discusses sewage treatment and disposal systems.			
<b>SAFE SHELLFISH HARVESTING</b>	<b>14:00</b>	<b>9-12</b>	<b>GM38</b>
Explains the safe way to harvest shellfish.			
<b>CITIZENS VOLUNTEER MONITORING CONFERENCE</b>	<b>120:00</b>	<b>9-12</b>	<b>GM39</b>
Details of the conference are discussed in this video.			
<b>GULF INITIATIVE: AMERICA'S SEA</b>	<b>17:10</b>	<b>4-12</b>	<b>GM40</b>
Explains the Gulf's initiative concerning America's seas.			
<b>KEEPING THE SPARKLE IN LOUISIANA'S WATERS</b>	<b>24:00</b>	<b>4-12</b>	<b>GM41</b>
Discusses a consumer education program on low phosphate detergents.			

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>WATERWAYS</b> Explains a coral reef classroom at Key West, Florida.	<b>25:00</b>	<b>9-12</b>	<b>GM42</b>
<b>OZONE: DOUBLE TROUBLE</b> Discusses the global problem of the depletion of the ozone layer.	<b>17:27</b>	<b>7-12</b>	<b>GM43</b>
<b>TEXAS SHORES: SAVING WHAT'S LEFT</b> Discusses the shoreline erosion issues along the Texas coast.	<b>26:50</b>	<b>7-12</b>	<b>GM44</b>
<b>WATER QUALITY - BASED APPROACH TO POLLUTION CONTROL</b> Discusses water quality-based approaches to pollution control.	<b>16:00</b>	<b>7-12</b>	<b>GM45</b>
<b>WETLANDS FOR THE FUTURE WITH GULF COAST JOINT VENTURE</b> Discusses North American Waterfowl Management Plan along with joint venture projects to protect, restore, enhance and create wetlands.	<b>16:47</b>	<b>9-12</b>	<b>GM46</b>
<b>EVALUATING YOUR COASTAL PROPERTY</b> Discusses still water level, storm surge, storm wave run up height, and construction setback on the Great Lakes.	<b>18:40</b>	<b>9-12</b>	<b>GM47</b>
<b>CAREERS IN WATER QUALITY</b> Shows a group of high school students discussing their plans for college and careers.	<b>16:20</b>	<b>5-12</b>	<b>GM48</b>
<b>TOMORROW'S ENERGY TODAY</b> Reviews environmentally friendly alternative sources of energy.	<b>26:00</b>	<b>5-12</b>	<b>GM49</b>
<b>SAVING WATER: THE CONSERVATION VIDEO</b> Discusses water conservation methods.	<b>8:00</b>	<b>5-12</b>	<b>GM50</b>
<b>H2O GROUND WATER VIDEO</b> Discusses protecting ground water from household and industrial pollution.	<b>9:20</b>	<b>5-12</b>	<b>GM51</b>
<b>HAUNTED WATERS, FRAGILE LANDS</b> Discusses the Barataria-Terrebonne National Estuary Program.	<b>15:00</b>	<b>5-12</b>	<b>GM52</b>

	<b>Run Time</b>	<b>Grade</b>	<b>Cat. #</b>
<b>GULF OF MEXICO</b> Discusses environmental impacts affecting Florida's coastal estuaries and the Gulf of Mexico.	<b>6:00</b>	<b>5-12</b>	<b>GM53</b>
<b>LIFE ON THE EDGE</b> Examines environmental impacts such as marine debris; freshwater inflow; pesticides and over enrichment.	<b>21:00</b>	<b>5-12</b>	<b>GM54</b>
<b>GULF OF MEXICO SYMPOSIUM</b> Reviews highlights of the 1995 Gulf of Mexico Symposium held in Corpus Christi.	<b>3:11</b>	<b>5-12</b>	<b>GM55</b>
<b>MISSISSIPPI RIVER PROJECT</b> Shows footage of students from the Gulf States taking water quality test samples.	<b>8:00</b>	<b>5-12</b>	<b>GM56</b>
<b>GULF OF MEXICO VIDEO II</b> Shows a grandfather's view as told to his granddaughter on being environmentally aware of our natural Gulf of Mexico treasures.	<b>15:34</b>	<b>5-12</b>	<b>GM57</b>
<b>NOAA: TRASHING THE OCEAN</b> Explores threatened garbage dumps, recycling and plastic consumption by animals.	<b>7:30</b>	<b>5-12</b>	<b>GM58</b>
<b>AN ADVENTURE WITH A TREE</b> Discusses the importance of trees in our environment.	<b>8:00</b>	<b>5-12</b>	<b>GM59</b>
<b>CONVICTION OF THE HEART NATIONAL PARK SERVICE</b> Discusses the importance of protecting our National Parks.	<b>8:00</b>	<b>5-12</b>	<b>GM60</b>
<b>FUEL-LESS: YOU CAN'T BE COOL WITHOUT FUEL</b> Shows a high school girl's perspective on what life is like without oil.	<b>16:17</b>	<b>5-12</b>	<b>GM61</b>