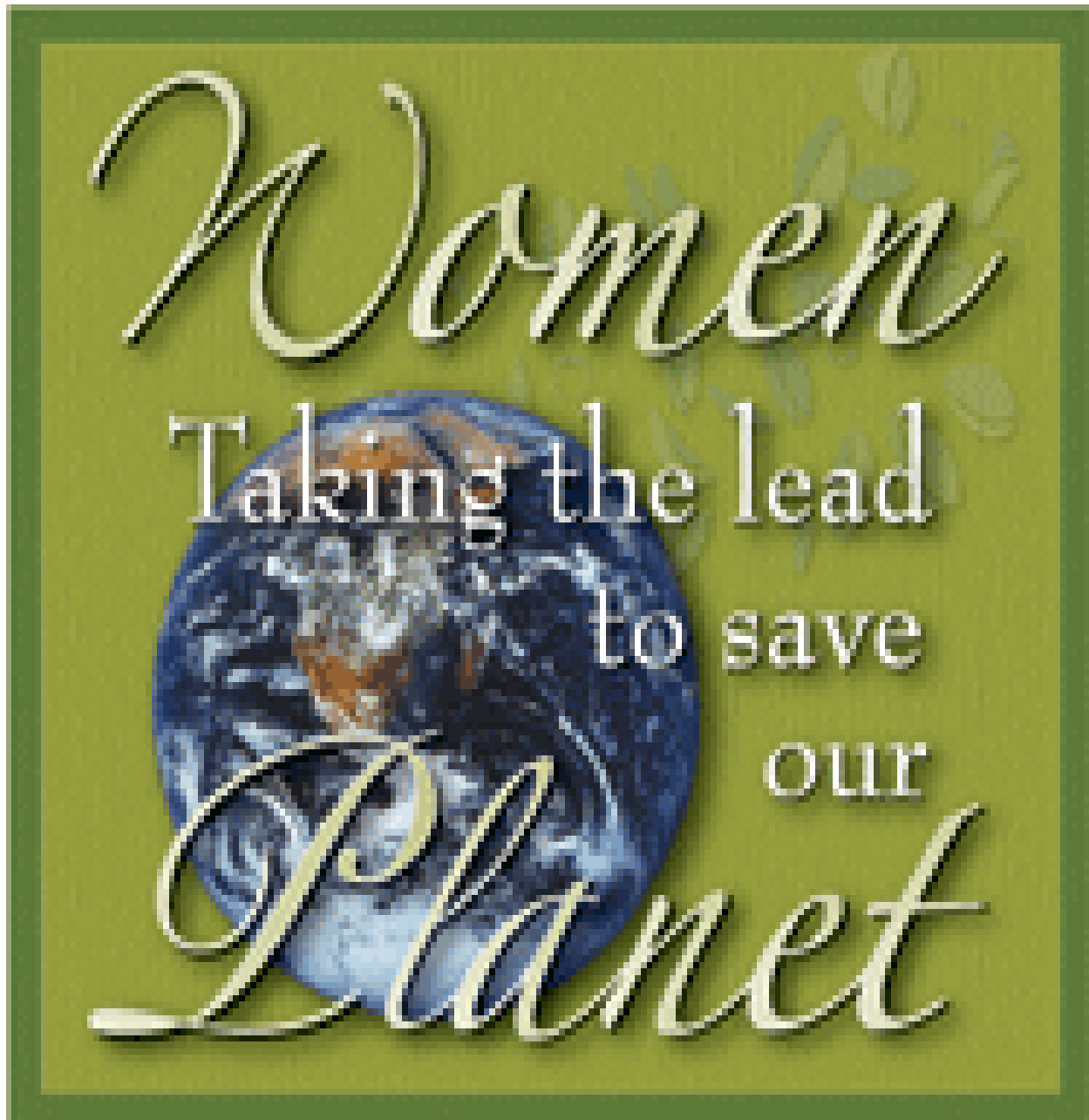


National Women's History Month

Resources and Activities on Women's Contributions to the United States



Miami-Dade County Public Schools
Curriculum and Instruction
Division of Social Sciences and Life Skills

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CONTENTS

Women's History Month 2009

- 2009 theme and Women's History Month

M-DCPS Library and Media Resources on Women's Contributions to History

Women's History Month Web Resources

Women's Organizations in Miami-Dade County

National Women's History Project (NWHP)

- Suggested Activities for infusing the 2009 Honorees
- National Women's History Project 2009 Honorees

Lesson Plans/Activities

Articles: Women that are taking the Lead to Save our Planet

Women Taking the lead to save our *Planet*



Women Taking the Lead to save our Planet



2009 Theme: *Women Taking the Lead to Save our Planet*

Each year, March is designated as National Women's History Month to ensure that the history of American women will be recognized and celebrated in schools, workplaces, and communities throughout the country. The stories of women's historic achievements present an expanded view of the complexity and contradiction of living a full and purposeful life.

The knowledge of women's history provides a more expansive vision of what a woman can do. This perspective can encourage girls and women to think larger and bolder and can give boys and men a fuller understanding of the female experience.

2009 theme for National Women's History Month.

In 2009, the National Women's History Project honors women who have taken the lead in the environmental or "green" movement. We are featuring Rachel Carson, the founder of the contemporary environmental movement, as the iconic model of the theme. Rachel Carson's work provides an admirable model for comparison. The 2009 Honorees are scientists, engineers, business leaders, writers, filmmakers, conservationists, teachers, community organizers, religious or workplace leaders or others whose lives show exceptional vision and leadership to save our planet.

This year we are recognizing one-hundred 2009 Honorees who demonstrate women's leadership in protecting the environment on a local, state, or national level. The 2009 Honorees are representative of women from across the country who have taken or are taking the lead to save our planet.

Source: the NWHP.Org website)

History of National Women's History Month



The Beginning

As recently as the 1970's, women's history was virtually an unknown topic in the K-12 curriculum or in general public consciousness. To address this situation, the Education Task Force of the Sonoma County (California) Commission on the Status of Women initiated a "Women's History Week" celebration for 1978. We chose the week of March 8 to make International Women's Day the focal point of the observance. The activities that were held met with enthusiastic response, and within a few years dozens of schools planned special programs for Women's History Week, over one-hundred community women participated in the Community Resource Women Project, an annual "Real Woman" Essay Contest drew hundreds of entries, and we were staging a marvelous annual parade and program in downtown Santa Rosa, California.

Local Celebrations

In 1979, a member of our group was invited to participate in Women's History Institutes at Sarah Lawrence College, attended by the national leaders of organizations for women and girls. When they learned about our county-wide Women's History Week celebration, they decided to initiate similar celebrations within their own organizations and school districts. They also agreed to support our efforts to secure a Congressional Resolution declaring a "National Women's History Week." Together we succeeded! In 1981, Sen. Orrin Hatch (R-UT) and

Rep. Barbara Mikulski (D-MD) co-sponsored the first Joint Congressional Resolution.

Overwhelming Response

As word spread rapidly across the nation, state departments of education encouraged celebrations of National Women's History Week as an effective means to achieving equity goals within classrooms. Maryland, Pennsylvania, New York, Oregon, Alaska, and other states developed and distributed curriculum materials all of their public schools. Organizations sponsored essay contests and other special programs in their local areas. Within a few years, thousands of schools and communities were celebrating National Women's History Week, supported and encouraged by resolutions from governors, city councils, school boards, and the U.S. Congress.

The Entire Month of March

In 1987, the National Women's History Project petitioned Congress to expand the national celebration to the entire month of March. Since then, the National Women's History Month Resolution has been approved with bipartisan support in both the House and Senate. Each year, programs and activities in schools, workplaces, and communities have become more extensive as information and program ideas have been developed and shared.

Growing Interest in Women's History

The popularity of women's history celebrations has sparked a new interest in uncovering women's forgotten heritage. A President's Commission on the Celebration of Women in History in America recently sponsored hearings in many sections of the country. It took reports about effective activities and institutions that are promoting women's history awareness and heard recommendations for programs still needed. The Women's Progress Commission will soon begin hearings to ascertain appropriate methods for identifying and then preserving sites of importance to American women's history. In many areas, state historical societies, women's organizations, and groups such as the Girl Scout of the USA have worked together to develop joint programs. Under the guidance of the National Women's History Project, educators, workplace program planners, parents and community organizations in thousands of American communities have turned National Women's History Month into a major focal celebration, and a springboard for celebrating women's history all year 'round.

Expanding the Focus

The National Women's History Project is involved in many efforts to promote multicultural women's history. We produce organizing guides, curriculum units, posters and display sets, videos, and a range of delightful celebration supplies. We also coordinate the Women's History Network, conduct teacher training conferences, and supply materials to people wherever they live through a [Women's History Catalog](#).



LIBRARY MEDIA RESOURCES

The following online databases are available through the Library Media Services Virtual Library located at <http://it.dadeschools.net/library/index.htm>. Contact your library media specialist for username and password.

ELEMENTARY

eLibrary Elementary

<http://portal.bigchalk.com/portalweb/home.do>

- Navigation Path:
eLibrary / click the Topics tab / type in “women’s history” / find 3 search paths
Select Women’s History, then games and quizzes and don’t miss the “Women’s Rights” interactive flash game that takes your students on a Victorian tour of women’s rights from 1840-1901.
http://www.bbc.co.uk/history/british/victorians/launch_gms_womens_rights.shtml
*Search by name or topic and find articles by Lexile level.

Info Trac Kids Edition

<http://infotrac.galegroup.com/itweb/miamidadekids>

- Kids Edition K-12
Search term- important women
Find a cross word puzzle titled 15 Important Women
Search term: women’s history month
Find 1 article: Landmarks in Women’s History *Weekly Reader, Edition 4 (including Science Spin)*, March 17, 2006 v87
- Kid InfoBits
Search by name of famous woman for relevant articles (i.e. Sally Ride, Rachel Carson, Sacajawea, and Rosa Parks)
- Junior Reference Collection
Search term: women
Find reference articles and multimedia links (graphics, audio, and panoramic photos)

Grolier Online

<http://go-kids.grolier.com/splash>

- Search Term: women’s history month
Tab through encyclopedia articles, websites, media, news feature stories and magazines

M-DPCS LIBRARY MEDIA RESOURCES (continued)

NewsBank KidsPage

<http://infoweb.newsbank.com>

- Navigation Path:
Click on Connections for Kids / History and Geography / Women's History

World Book Online

<http://www.worldbookonline.com>

- Navigation Path:
Click on World Book Kids- (K-5) and search by name in the People Category- Don't miss the voice over activation when rolling over the major topic headings.

SECONDARY

Thomson Gale

<http://infotrac.galegroup.com/itweb/miamidade>

- Navigation Path:
Search term: Women's History Month
Don't miss out on the ability to have your article **translated** into Spanish or French!

Grolier Online

<http://go.grolier.com/passport>

- Navigation Path:
Feature Showcase button (on left) - Women's History

Facts on File

<http://www.fofweb.com/Subscription/Default-frameonline3.asp>

- Navigation Path:
Contains the **American Women's History Online Database** which offers thorough access to more than 500 years of American Women's History including biographies, historical and topical subject entries, maps and charts, image galleries and timelines

NewsBank

<http://infoweb.newsbank.com>

- Navigation Path:
Look at the Special Reports section – on the left for Women's History Month
You can also select a periodical and search by name; this would be most efficient for modern women, women in the news today and/or pop culture icons

SIRS Knowledge Source

<http://sks.sirs.com>

- Navigation Path:
Click on “Spotlight of the Month” from main page: Women’s History Month is the March spotlight (All articles listed by Lexile reading level)
(You may also want to note past and future “spotlights” by clicking on the archives section of the Spotlight of the Month feature section.)

World Book Online

<http://www.worldbookonline.com>

- Navigation Path:
Click on Features of the Month – Women’s History
*You may also want to note past and future “features” by clicking on the archives section under “More Features”

Women's History Month - Web Resources

Studying Women's Contributions to History

Since 1910, March 8 has been observed as International Women's Day by people around the world. Thus, March was chosen for National Women's History Month in the United States.

In celebrating Women's History, the goal is not to rewrite history, but rather to add very different perspectives about what is historically significant. Before the 1980s, history focused primarily on political, military, and economic leaders and events. That approach has virtually excluded women, both leaders and ordinary citizens, from history books.

Here are some resources to help you integrate the celebration of Women's History Month into your curriculum. They include Web sites, lesson plans, and activity ideas.

Web Sites

National Women's History Project

Information, a downloadable poster, and other resources about National History Month celebration.

<http://www.nwhp.org/>

Thomson-Gale Free Resources

A brief history of Women's History Month, biographies of significant women throughout time, a quiz based on women and their achievements, a time line of significant events in women's history, a downloadable calendar, and some activities to celebrate women's history.

http://www.gale.com/free_resources/whm/index.htm

"Votes for Women" Suffrage Pictures, 1850-1920 | Library of Congress

Varied resources related to the campaign for woman suffrage in the United States. The 38 pictures include photographs of suffrage parades, picketing suffragists, and an anti-suffrage display, as well as cartoons commenting on the movement.

<http://lcweb2.loc.gov/ammem/vfwhtml/vfwhome.html>

Women's History Resources | Library of Congress

Developed in conjunction with the chapter on the Prints and Photographs Division in *American Women: A Library of Congress Guide for the Study of Women's History and Culture in the United States*. It is a starting point for pursuing research in various topic areas that broadly reflect aspects of American women's lives.

http://www.loc.gov/rr/print/coll/237_path.html

U.S. Women's History Workshop

The Women's History Workshop is a collaborative effort of Massachusetts teachers -- middle school through college -- which seeks to make available primary sources in pedagogically imaginative formats for teachers who wish to use such materials in their own classrooms.

<http://www.assumption.edu/whw/>

Women Pioneers in American Memory | Library of Congress

This feature explores the stories of women who have forged ahead to make a better life for themselves, their families, and their societies. This presentation includes women's experiences of the California Gold Rush, issues such as suffrage, the struggle for equality, and women at work.

<http://memory.loc.gov/ammem/ndlpedu/features/women/women.html>

March 8, International Women's Day and Women's History Month | NEA

Information on the gains, the challenges, and history of Women's Day and Women's History Month.

<http://www.nea.org/international/intlwomen.html#challenges>

Profiles

Women's Intellectual Contributions to the Study of the Mind and Society

This Web site is designed to place women into the history of psychology, sociology, anthropology, and social work. There are dozens of resources available about the lives of these women, their intellectual contributions, and the unique impact and special problems that being female had on their careers.

<http://www.webster.edu/~woolfilm/women.html>

Topical Resources

National Women's History Museum

This site's educational resources include a self-guided tour of the museum, biographies of famous women, lesson plans, quizzes and quotes, and women's history events by state.

<http://www.nmwh.org/>

Living the Legacy: The Women's Rights Movement 1848-1998

Sponsored by the National Women's History Project, this Web site was conceived in order to commemorate the 150th anniversary of the Women's Rights Movement, which began in 1848. Most useful on the site are the full history of the women's rights movement and a detailed time line of the 150 years of the movement.

<http://www.legacy98.org/>

The History Channel: Women's History Month

HistoryChannel.com includes profiles of numerous famous women, a Hall of Fame, a History of Women's Suffrage in America, a time line, Women's Firsts, and other resources.

<http://www.historychannel.com/exhibits/womenhist/>

The National Women's Hall of Fame

This Web site from the Seneca Falls, New York, National Women's Hall of Fame houses biographies of famous American women.

<http://www.greatwomen.org/>

Research Tools, Women's History | Scholastic

This site contains student-friendly essays on the history of Women's History Month, the women's suffrage movement, and women in the U.S. today, and profiles of civil rights activists, artists, athletes, political women, journalists, scientists, and others.

<http://teacher.scholastic.com/researchtools/articlearchives/womhst/>

Not for Ourselves Alone: The Story of Elizabeth Cady Stanton and Susan B. Anthony | PBS

An online companion to the PBS documentary, this site includes a collection of resources that may be used in the classroom. Experience the work of Elizabeth Cady Stanton and Susan B. Anthony. Track key events in the suffrage movement, delve into historic documents and essays, and take a look at where women are today.

<http://www.pbs.org/stantonanthony/>

Women in Alaska's History | ThinkQuest

This site, developed by students for the ThinkQuest competition, helps students learn about a diverse group of women who helped shape the Alaska we know today. On the site, you'll find information about these women and their roles in early Alaskan history, the gold rush, the Iditarod, and other aspects of Alaskan history and culture. A search engine and time line allows you to search for a specific woman or time period in Alaskan history. An activities section includes teaching ideas and fun projects to supplement this site.

<http://library.thinkquest.org/11313/>

What Did You Do In The War, Grandma?

A community oral history project, the site was produced by students at South Kingstown High School in Rhode Island and contains 26 oral histories of women's memories of World War II, an introduction explaining how English teachers might approach oral histories, a WWII time line, a bibliography, and two scholarly prefaces. http://www.stg.brown.edu/projects/WWII_Women/tocCS.html

True-Hearted Vixens | PBS: P.O.V.

True-Hearted Vixens is the story of two players who make the cut for the Women's Professional Football League's (WPFL's) first exhibition tour. Jane Bolin is a political consultant turned linebacker, and Kertia 'Moochie' Lofton is a single mother and a professional women's basketball hopeful. The film also documents the challenges the WPFL faces in developing an audience for a sport that is traditionally regarded as male terrain. Explore the world of girls' and women's sports, and brush up on your history of U.S. women in team sports.

<http://www.pbs.org/pov/pov2001/trueheartedvixens/>

Eleanor Roosevelt | PBS: The American Experience

For more than thirty years, she was the most powerful woman in America. Niece of one president and wife of another, Eleanor Roosevelt was at the center of much of this century's history -- a charismatic woman of charm and of contradictions. Aristocratic in voice and manner, she was also "tough as nails," says historian Geoffrey Ward. "In fact, she was one of the best politicians of the twentieth century."

<http://www.pbs.org/wgbh/amex/eleanor/filmmore/index.html>

Fly Girls | PBS: The American Experience

During WWII, more than a thousand women signed up to fly with the U.S. military. Wives, mothers, actresses, and debutantes who joined the Women Airforce Service Pilots (WASPS) test-piloted aircraft, ferried planes and logged 60 million miles in the air. Thirty-eight women died in service. But the opportunity to play a critical role in the war effort was abruptly canceled by politics and resentment, and it would be 30 years before women would again break the sex barrier in the skies.

<http://www.pbs.org/wgbh/amex/flygirls/index.html>

Iran on the Verge | PBS: Adventure Divas

Iranian women in particular feel the rumblings as the country's political and cultural landscape shifts. Their lives are racked with contradictions. They must hide their bodies, yet their voices are starting to be heard. <http://www.pbs.org/adventuredivas/iran/groundwork/>

Lesson Plans

Resources: The Story of Elizabeth Cady Stanton and Susan B. Anthony | PBS

Subjects: Social Studies, History, Civics, Government, Language Arts

Grades: 6-8, 9-12

Write editorials about women's rights around the world today; interview senior citizens about how women's roles have changed in the 20th century; investigate women's legal rights over 200 years of American history through primary documents; and explore the connections and conflicts between the suffrage and abolition movements in 19th century America.

<http://www.pbs.org/stantonanthony/resources/index.html>

Lessons include:

- Scripting the Past: students employ the screenwriter's craft to gain a fresh perspective on historical research.
http://edsitement.neh.gov/view_lesson_plan.asp?id=254
- Voting Rights for Women: students discover what attitudes about women and their relationships with men, and the arguments for and against suffrage, that had to be overcome before women could take their rightful place in American society.
http://edsitement.neh.gov/view_lesson_plan.asp?id=438
- Who Were the Foremothers of Women's Equality?: Students investigate the sources useful for uncovering the names of the women who contributed to the early Women's Rights Movement in the U.S.
http://edsitement.neh.gov/view_lesson_plan.asp?id=435
- Women's Equality: students examine what attitudes and beliefs obstructed the progress of the Women's Rights Movement in its formative years.
http://edsitement.neh.gov/view_lesson_plan.asp?id=437

Miss America | PBS: The American Experience

Subjects: History, Economics, Geography, Civics

Grades: 6-8, 9-12

"Miss America" offers insights into American history topics including the Jazz Age, the Depression, World War II, the Baby Boom, feminist and civil rights activism of the 1960s, the women's liberation movement, and more.

<http://www.pbs.org/wgbh/amex/missamerica/tguide/index.html>

Women's Studies | PBS TeacherSource

Lesson ideas that include a select number of books for teachers and students of all grade levels. Each recommendation is annotated and includes title, author, and publication date.

<http://www.pbs.org/teachers/search/results.html?q=women>

Women's ORGANIZATIONS

Miami-Dade County Commission for Women
111 NW 1st Street, Suite 660
Miami, Florida 33128
305-3754967
<http://www.miamidade.gov/cfw/>

Women's History Coalition of Miami-Dade County
President: Betsy Kaplan
P.O. Box 565307
Miami, Florida 33256

Florida International University
Women's Studies Center
Dr. Suzanna Rose, Director
University Park Campus, DM 212
Miami, Florida 33199
<http://www.fiu.edu/~wstudies/>

The Florida Commission on the Status of Women
Norma White, L.H.D., President
Claudia Kirk Barto, Vice-President
Office of the Attorney General
PL-01, The Capitol
Tallahassee, Florida 32399-1050
850 414-3300
<http://www.fcswnet>

National Women's Hall of Fame
P.O. Box 335
Seneca Falls, NY 13148-0355
315 568-2936
<http://www.greatwomen.org/>

National Women's History Project
7733 Bell Road
Windsor, CA 95492-8518
707 838-6000
www.nwhp.org

Suggested Activities for infusing the 2009 National Women's History Honorees



1. Women's history news reports: After reading the brief biographies of the **2009 National Women's History Month** list (partial list provided, for the complete list go to <http://nwhp.org/whm/honorees.php>) have students research the **2009 Women's History honorees** and write news releases for radio or television to report the facts of a specific, important event in which women were the major players. Pretending that the event has just happened, include all of the important details: who, what, when, where, and why. Don't forget to include a snappy headline or lead-in for the story, too!

*Extension Activity:

- Reflect on the **2009 Women's History month honorees**, as a class, review the list and allow each student to select one woman as the focus of his or her research.
- Then, using all available resources, students identify the answers to the following questions (copied onto a handout for easier student access):

*PERSONAL LIFE

- What was this woman's name at birth? Where and when was she born?
- What was her life like as a child and young adult? (Describe important aspects of family life, education, pastimes, etc.)
- What aspects of her early life may have led her to the field of study in which she became successful and well-known?
- What was her personal life like as an adult?
- Did she marry?
- Did she have children?
- What type of person was she?
- If this person is no longer alive, when and where did she die?

*ACHIEVEMENTS AND IMPACT

- At what point did she decide to go into her chosen field? How did she prepare for this field?
- What contributions did she make to this field and to larger society?
- Why was this work important?
- Detail some of her most significant work and its impact.
- In what way or ways did her work and achievements impact American history? Provide specific examples.

*PERSONAL REFLECTIONS

- What do you think everyone should know about this notable woman?
- What do you think was her most impressive achievement, and why?
- How has this woman inspired you? In what ways would you like to be her?

2. Research on women and work: After students conduct research on one of the following topics, have them report to the class about their findings on women and work in other time periods of U.S. history.

- The varied tasks which were women's responsibilities in the early colonies (be certain to include American Indians, European Americans, African-Americans, and Hispanics).
- Immigrant women in the 19th century: Where were they from? Why did they come here? What kinds of work did they do when they got here? What were their living conditions like?
- The lives of American Indian women of a tribe that lived near your community 200 years ago. The lives and work of American Indian women today.
- The work of migrant women, now and in earlier time periods.
- Mexican women of "the West," before Europeans arrived and afterward.
- Women workers in the textile and garment industries, from the 1850s to the present.
- Women's roles and contributions during a time when our country was at war.

3. Poster design contest: Organize a 2009 National Women's History Month honoree poster design contest. Display the entries in a public area of the school. Topic ideas:

- "Missing Persons," individuals or groups of women whose contributions are often ignored
- "Women Then and Now," featuring the social, economic, political and family changes in women's lives.
- "Did You Know...," introducing interesting historic facts about women.

4. Textbook review: Have students carefully examine the history textbooks used in your school, listing each woman either mentioned in the text or illustrated by photo or drawing. How many women are mentioned? What events or activities were they associated with? How many sentences are associated with each woman? Are women of different ethnicities portrayed? Contrast the findings with the textbook's treatment of men. Write to the publisher about these findings. Include recommendations of specific women to add to future editions, and ask for the publisher's response.

5. Family Histories: Brainstorm with your class to list questions they would like to ask an aunt, their mother, or the woman who raised them, about her life. Help them organize the questions into topics or clusters, developing an appropriate questionnaire. Guide the discussion toward including questions related to the impact of historic events on the woman's life, moves made by her family, family expectations for females and males, attitudes about women's public lives, etc. Discuss oral history interviewing strategies to avoid "yes/no" answers, and different forms of biographies for reporting the findings. Use the biographies to discuss similarities and differences between women's life experiences.

6. Political slogans: Numerous bumper-strip/button slogans have been associated with the women's movement. What have these messages meant? Who might agree or disagree with each? Are the issues represented new ones or have they had a long history? Examples: "Every Mother is a Working Mother," "Women Hold up Half the Sky," "Uppity Women Unite," "Sisterhood is Powerful," "A Woman's Place is... Everywhere," "Write Women Back into History," "Keep Your Laws Off My Body," "Take Back the Night."



Honorees: 2009 National Women's History Month



Wendy Abrams

b. 1965

Founder and President of Cool Globes

Illinois USA

Wendy Abrams founded Cool Globes, a non-profit organization established to raise awareness of global warming, and to inspire individuals and community leaders to embrace solutions. She also demonstrates her commitment to a healthy environment a member of the National Council of Environmental Defense, the National Board of the Union of Concerned Scientists and the National Resources Defense Council C4 Action Fund.

<http://www.coolglobes.com/>

<http://news.medill.northwestern.edu/chicago/news.aspx?id=36351>

Mary Arlene Appelhof

1936 --2005

Biologist, Worm Farmer, Educator, Publisher, and Environmentalist

Michigan

Mary Appelhof advocated using the lowly earthworm to recycle food waste into usable fertilizer. In the early 1970s she turned her basement worm container into a career designing composting bins, marketing worms, and authoring *Worms Eat My Garbage*. As "Worm Woman," she introduced thousands of schoolchildren and home gardeners to the fascinating, environmentally-significant activity of vermicomposting. <http://www.wormwoman.com/acatalog/index.html>

http://www.emilycompost.com/mary_appelhof.htm

Roswitha Augusta

Entrepreneur, Filmmaker

Maryland

Roswitha Augusta, is an entrepreneur, naturalist, and environmental filmmaker. In 1980, she established Augusta Properties, an apartment management company. Her profound love of nature prompted her to learn filmmaking and produce the award winning documentary, **Preserving the Future**, about the conflict between preserving our environment and urbanization. Additionally, she hosts a cable television program about local environmental issues.

http://www.gazette.net/gazette_archive/2000/200036/rockville/news/24498-1.html

Stephanie Avery

b. 1975

Director of Special Projects, YWCA of the Lower Cape Fear and Leave No Trace Master Educator

North Carolina

Ms. Avery developed ECO CAMPS on YWCA property. She personally built nature trails through the wetlands using the best practices of "Leave No Trace," spearheaded the identification of the flora and fauna, and created a tent classroom. She continues her work in conducting workshops and running ongoing ECO CAMPS and striving to help the community form habits to protect and preserve the environment.

www.ywca-lowercapefear.org

Mollie Beattie

1947 – 1996

Forester, Conservationist and Government Official

Vermont

Mollie Beattie was the first woman to head the United States Fish and Wildlife Service, which enforces wildlife laws and administers the Endangered Species Act. Beattie oversaw the successful reintroduction of the gray wolf into northern Rocky Mountains. To recognize her extraordinary work in the field of conservation, Congress named a wilderness area in Alaska's Arctic National Wildlife Refuge in her honor.

<http://query.nytimes.com/gst/fullpage.html?res=980CE0D61239F93AA15755C0A960958260>

Rebecca Bell

b.1953

Environmental Education Specialist

Maryland

Rebecca Bell has provided outstanding leadership in embedding environmental issues into the Maryland State curriculum for all public schools. Honored as the Maryland Middle School Science Teacher of the Year, Ms. Bell was selected in 2008 to participate in the National Oceanic and Atmospheric Administration (NOAA) Teacher at Sea program to help scientists monitor changing ecosystem. Rebecca also serves on the Governor's Climate Change Commission.

<http://www.marylandpublicschools.org/MSDE/programs/environment>

<http://teacheratsea.noaa.gov/bell/index/html>

Rachel Binah

b. 1942

Community Activist

California

Rachel Binah mobilized her Fort Bragg in California community to stop oil drilling off California's North Coast. Federal hearings were attended by 5000 people with 1400 signed up to testify! As Chair Emeritus of California Democratic Party's Environmental Caucus, and Democratic National Committeewoman, Rachel continues to advocate for Earth's environment, alternative energy, and ocean protection to Democratic candidates, elected officials.

www.environmentalcaucus.org

Jenny Blaker

b. 1955

Outreach Coordinator, Cotati Creek Critters

California

As Outreach Coordinator for the Cotati Creek Critters (CCC) in Cotati, California, Jenny Blaker has involved hundreds of volunteers in planting a mile of native trees and shrubs alongside the city's Laguna de Santa Rosa waterway. CCC's community education program has helped to raise awareness and nurture a sense of environmental stewardship. Although Ms. Blaker is a British national, she was awarded the Cotati Citizen of the Year Award, 2007.

www.CotatiCreekCritters.info

Arlene Blum

b.1945

Bio-Physical Chemist, Mountaineer, Environmental Activist

International

Arlene Blum is best known for leading the first American, all-women's ascent of Annapurna. Blum's research was instrumental in banning Tris and Fyrol, two cancer-causing chemicals used as flame retardants on children's sleepwear, and the pesticide DBCP. Today, Blum is fighting the use of flame retardants in everyday products such as upholstered furniture. She is the author of ***Breaking Trail: A Climbing Life.***

<http://www.arleneblum.com/>, <http://greensciencepolicy.org/>,

<http://marketplace.publicradio.org/shows/2007/06/27/AM200706273.html>

Margrett (“Gretta”) Boley
Forest Supervisor, Kisatchie National Forest
Louisiana

Superintendent Boley was first in the region to implement Biomass Plant which produces energy from wood chips for district office, parking lot lighting and other energy needs. A leader and role model in reducing the carbon footprint, she began an office campaign for recycling paper, batteries, disposal of tree marking paint, oil, other items that are harming the environment.

Additional information can be obtained from the public information officer, Jim Caldwell, Kisatchie National Forest, (318) 473-7160, ext. 7168

Barbara K. Byrd
b. 1949
State Secretary of the Oregon AFL-CIO
Oregon

Barbara Byrd coordinates the Oregon Apollo Alliance, a labor-business-environmental coalition that promotes clean energy and good jobs. In 2007, she attended the United Nations Climate Change Convention in Bali, Indonesia. Her participation in the first labor delegation to the Western Climate Initiative stakeholder meetings in 2008 which resulted in documenting labor’s stake in the climate change.

<http://www.bcfed.ca/node/1279>

<http://www.nwlaborpress.org/2007/5-18-07Apollo.html>

Helen Caldicott
b.1938
Physician, Author, Speaker
International

Helen Caldicott, physician, pacifist, and anti-nuclear activist, has worked for over 35 years to educate the international community on the medical and environmental hazards of the nuclear age. As “the single most articulate and passionate advocate of citizen action to remedy the nuclear and environmental crises,” Dr. Caldicott was named by The Smithsonian Institute as one of the most influential women of the 20th Century. www.helencaldicott.com

Pamela S. Chasek, Ph.D

b.1961

Founder and Editor, Earth Negotiations Bulletin

New York

Pamela S. Chasek has for 22 years demonstrated her passionate commitment to working to save the planet in her writing and in her work planning a climate change awareness campaign for the National Wildlife Foundation in the 1980's. She founded the Earth Negotiations Bulletin in 1992, created an environmental studies major at Manhattan College, and continues working each day to create a green campus. <http://www.unu.edu/unupress/backlist/ab-globalenv.html>
<http://unjobs.org/authors/pamelachasek>,

Lynne Cherry

b.1952

Author, Environmental Appreciation and Education Books

Maryland

Lynne Cherry is the author/illustrator of *The Great Kapok Tree* and thirty+ other award-winning children's books that teach respect for the earth. *Flute's Journey: the Life of a Wood Thrush* focused national media attention on conservation efforts to save the 60 acre Belt Woods in Md. when Lynne and students were featured on *Sunday Morning News With Charles Osgood*.
www.lynncherry.com.

Gillian Christie

President and Owner of Christie Communications

California

As CEO of Christie Communications, a full-service, organic marketing company exclusively helping ethical businesses, socially conscious organizations and charities broaden their impact through effective communication services, Gillian Christie has been helping organizations make peace profitable. The agency's non-profit arm, Christie CommUnity Foundation, helps businesses partner with developing nations to facilitate growth, health and economic prosperity in communities such as Sudan, Sri Lanka and Rwanda. www.christiecomm.com

Mary Cleave

b.1947

Environmental Engineer and Astronaut

New York District of Columbia

Dr. Cleave was a mission specialist at NASA and flew on space flights in 1985 and 1989. Her extensive research is in the field of soil and water pollution with a special focus on the need for minimum river flow to help maintain certain game fish. She served as NASA Associate Administrator for the Science Mission and also managed NASA's Ocean Color Satellite Program in Washington, DC.
http://en.wikipedia.org/wiki/Mary_L._Cleave

Hillary Rodham Clinton

b. 1947

Secretary of State

New York USA

While serving in the United States Senate, Senator Clinton worked to secure federal legislation to protect the environment both on the Senate's Environment and Public Works Committee and as the senior Democrat on the Fisheries, Wildlife and Water subcommittee. She co-sponsored the Petroleum Consumer Price Gouging Protection Act and Close the Enron Loophole Act to enable the President to declare an energy emergency and trigger federal gouging protections. http://www.ontheissues.org/hillary_clinton.htm#Environment
http://www.sourcewatch.org/index.php?title=Hillary_Rodham_Clinton

Mignon Leticia Clyburn

b. 1962

South Carolina Public Service Commissioner (6 th District)

South Carolina

Mignon Clyburn was elected and presently serves as Commissioner of the South Carolina Public Service Commission since 1998. In 2002, she was elected as Chair of the Commission. Prior to her role at the Commission, Ms. Clyburn served as editor, publisher, and general manager of the Coastal Times Newspaper. She is very active in both Richland and Charleston county communities.

www.scstatehouse.gov/sess114_2001-2002/sj02/20020514.htm

Ellie Cohen

Conservationist

California

Ellie Cohen, who is the Executive Director of Pt. Reyes Bird Observatory (PRBO) has over 20 years of non-profit and for-profit management, fundraising, and policy expertise. Ms. Cohen brings her perspective as a scientist and public policy advisor to the topic of climate change. PROP is an award winning center for bird ecology research advancing biodiversity conservation on land and at sea.

<http://www.prbo.org/cms/37>

<http://www.avianknowledge.net/content/about/partners/prbo>

Madie Collins

b.1950s

Founder of P.A.W. Animal Sanctuary

Belize

In 2003, Madi gave up her corporate job in New York to return to her native community of Caye Caulker, Belize in 2003. Beginning with caring for one, sickly, abandoned cat, Ms. Collins became determined to help all the island's cats. Facing mountains of obstacles, lack of funds, and opposition from people, she was able to accomplish her dream of establishing a cat sanctuary.

www.pawanimalsanctuarybelize.com

Mary S. "Mimi" Cooper

b. 1943

Teacher and Environmental Activist

Maryland

Mary S. "Mimi" Cooper is an activist with a burning desire for positive change who has acted as an "environmental conscience" in many situations. She helped start a Baltimore hazardous waste day, is a director of Rachel Carson Council, was on the National Conservation Committee of the Garden Club of America, and has taught at the Irvine Nature Center.

Tammy Cromer-Campbell

b.1960

Photographer/Author/Filmmaker

Texas

Knowing that environmental justice issues are not limited to Winona, Texas, Tammy Cromer-Campbell documents how communities struggle with environmental injustice. She starts with Winona, Texas, then Seattle, Washington, Houston and De Berry, Texas. It's her hope that revealing these injustices real change will occur. To tell this story, she created *With Fruit of the Orchard | Environmental Justice in East Texas* as a film and as a book.

<http://www.tccphoto.com>, <http://www.cep.unt.edu/foto>,

<http://www.fruitoftheorchard.com>, <http://www.ejusa.info>,

<http://www.tccphotogallery.com>, short 10 minute film:

<http://web.mac.com/tccphoto/iWeb/ejusa/ejusa.html>

Dr. Margaret Bryan Davis

b.1931

Behavioral Biologist

Minnesota

Margaret Davis was named Regents Professor of Ecology, Evolution, and Behavioral Biology at the University of Minnesota in 1983. Her groundbreaking study of the history of the migration of forest communities during the past 14,000 years has significant implications on various theories of global warning. Her memberships include the National Academy of Sciences and the International Association for Vegetation Science.

Betsy Damon**Artist****United States China**

Betsy Damon, an environmental artist and activist focusing on water, is a practical visionary and founder of Keepers of the Waters (in 1991) which supports collaborations between artists, scientists, and citizens to restore, preserve, and remediate their water sources. The Living Water Garden (Chengdu) and the Olympic Forest Park (Beijing) are two of her most well known projects.

<http://www.keepersofthewaters.org/>

<http://ecocity.wordpress.com/2008/03/05/featured-presenter-betsy-damon/>

<http://www.researchchannel.org/prog/displayevent.aspx?rID=2045>

Marjory Stoneman Douglas**1890 – 1998****Florida**

Marjory Stoneman Douglas distinguished literary career encompassed her work as a true naturalist, discouraging the ever growing commercial development in South Florida. In 1947, she published one of the best known conservation books to date, "The Everglades: River of Grass." Her successful preservation campaign resulted in the establishment the Everglades National Park and in 1969 she helped found the conservation organization, Friends of the Everglades.

http://en.wikipedia.org/wiki/Marjory_Stoneman_Douglas

Caitlin Alexandra Dunbar**1989 –2004****Student****Maryland**

Caitlin Dunbar's lifelong interest in nature and the outdoors lives on in the Caitlin Dunbar Girl Scout nature center established in her name by family, friends, and the Girl Scouts of Central Maryland following her sudden death from leukemia at age 15. This nature center offer stewardship activities on rescued wildlife and "hands on" environmental opportunities for Scouts and visitors to enjoy and appreciate.

Kathleen Eagan**b.1943****Mayor, Community Activist, Funder****California**

Kathleen Eagan founded four organizations to protect the Truckee River in Truckee. She fought powerful state and federal interests who tried to destroy the flow of the River. One of her colleagues commented, "they never had a chance." She has led the restoration of hundreds of acres of meadow, wetland and stream habitat. Kathleen's work demonstrates the power of each of us protecting the place we love. "If we don't, who else will?"

www.truckeeriverwc.org

Sylvia Alice Earle**b.1935****Oceanographer and Environmentalist****New Jersey Alaska Hawaii**

Sylvia Earle was the first woman chief scientist of the National Oceanic and Atmospheric Administration. She led the investigations of the impact of the burning of Kuwait's oil fields and the devastation caused by the Exxon Valdez in Prince William Sound in Alaska. With a group of other women scientists she lived underwater for 2 weeks to study marine environment and the effects of isolation on humans. http://en.wikipedia.org/wiki/Sylvia_Earle

Sister Claretta Easter**1901-1998****Science and Ecology Teacher****Wisconsin**

Sister Claretta taught at various Catholic elementary and high schools. She was instrumental in the formation of the Department of Outdoor Education in Grant County, Wisconsin. The mapping out of nature trails and their naming and signing were evidence of her interest in education. A registered certified tree farmer, she planned and first planted a tree farm in 1971. Contact Susan Scott at oneillmuseum@aol.com for additional information about Sister Claretta Easter.

Ilia J. Fehrer**1927 – 2007****Maryland**

Ilia Fehrer was one of the strongest pro-preservation voices in Maryland, heard not only when Assateague Island's future was in question but also when ecosystems beyond her own coastal bays were threatened. It is because of her vision, advocacy and tenacity that we can and future generations will enjoy the Assateague Island National Seashore almost as our European ancestors found it.

<http://www.mdcoastdispatch.com/article.php?cid=18&id=963>

<http://query.nytimes.com/gst/fullpage.html?sec=health&res=9A0DE1DB163AF936A25755C0A960948260>

Laura Capon Fermi**1907-1977****Science Author and Community Activist****Illinois**

Laura Capon Fermi joined with other women to form the Cleaner Air Committee of Hyde-Park Kenwood (CAC), near the University of Chicago. From 1959 to 1972, the CAC lobbied and educated the public about the dangers of pollution from coal-burning furnaces and cars. The results were local building shifting from coal to cleaner gas or oil furnaces and a ban on the burning garbage in apartment buildings. http://en.wikipedia.org/wiki/Laura_Fermi

Caroline Rose Foster

1877 – 1977

**Farmer; First County Deputy Sheriff; Community Organizer; Benefactor
New Jersey**

Caroline Rose Foster created and donated the first outdoor living historical farm in New Jersey, which remains a strong place for learning thirty-years after her death. An environmentalist, she worked to preserve the historic places within the County of Morris, New Jersey including the Morris County Park Commission which preserves 38 county parks and over 17,500 acres of land in northern New Jersey.

Matilda Elizabeth Frelinghuysen

1888 – 1969

**Philanthropist
New Jersey**

Matilda Elizabeth Frelinghuysen, was a philanthropist of the New England Conservatory of Music and a supporter of the Masterworks Chorus. She donated the land for the establishment of the Morris County Free Library. She donated her Whippany Farm Estate of 127 acres so that future generations would be able to enjoy and appreciate the beauty that surrounded what she considered the 'golden age.' www.morrisparks.net

Pamela A. Frucci

b. 1932

**Retired Teacher, Community Activist, Township Trustee
Michigan**

Pamela A. Frucci has been a waste-not addict since reading Cheaper by the Dozen as a teenager and marveling how the efficiency-expert father cut down on waste. She served on the Michigan Resource Recovery Commission before waste reduction and recycling caught on. In 1983 she founded the Downriver Recycling Center. The Fruccis put out almost zero trash and recycle the rest, even recycling lint into pillows.

Lois Marie Gibbs

b.1951

**Executive Director, Center for Health, Environment & Justice
Virginia**

In 1978, a young housewife named Lois Gibbs discovered that her child's elementary school was built on top of a toxic-chemical dump. Determined to do something, she organized her neighbors into the Love Canal Homeowners Association, which worked for more than 2 years to have the community relocated. In 1981, Lois created the Center for Health, Environment & Justice, (CHEJ), an organization that has assisted over 10,000 grassroots movements. www.chej.org

Jane Goodall**b.1934****Wildlife Researcher, Educator , and Conservationist.****Great Britain Africa USA**

A young Jane Goodall went to Africa to study chimpanzees and soon became their leading crusader. Her research work expanded to include numerous conservation efforts in Africa and worldwide. Her global nonprofit Institute empowers people to make a difference for all living things, by creating healthy ecosystems, promoting sustainable livelihoods and nurturing new generations of committed, active citizens. www.janegoodall.org

Amy Goodman**b. 1957****Journalist****USA International**

As a journalist for **Democracy Now** Amy Goodman has interviewed leaders throughout the world about the pressing issues of war and peace as well as global warming and its related impact. Coverage of war and peace as well as human rights movements have caused her to brave some of the most intense world crises. Her goal as a journalist is inform her audience about the threats to the planet.

http://en.wikipedia.org/wiki/Amy_Goodman

Sunshine Goodmorning**b. 1974****Facilities Maintenance Specialist****California**

Sunshine works for the Washington DC National Park Service Maintenance Office from her home. While at Yosemite National Park, she served as chair of the EEO Committee during which she presented an outdoor showing of "Iron Jawed Angels" with a picnic dinner. El Portal is where she remodeled a historical building and chaired the 100th community celebration.

Dr. Alice Hamilton**1869-1970****Occupational Safety and Health Pioneer****Indiana**

Hamilton was the first person to document the danger of industrial poisons like lead, phosphorus, and other chemicals in the work place. Her work at Hull House gave her the opportunity to fully investigate hazardous working conditions that led to accidents, deaths, and chronic illness. Her unprecedented work resulted in laws protecting workers and improving working conditions in this country and internationally. <http://www.distinguishedwomen.com/biographies/hamilton-a.html>

Ann Hancock**b.1950****Executive Director of Climate Protection Campaign
California**

With over 25 years in community leadership, education, and fundraising, Ann Hancock has spearhead the most progressive climate protection campaign in the US, resulting in a comprehensive Plan to reduce Greenhouse Gas Emissions 25% below 1990 levels by 2015 throughout their county. In 2001, she co-founded the Climate Protection Campaign and has been a sustainability planner for the County of Marin.

<http://www.climateprotectioncampaign.org/news/news19.php>

http://www.pressdemocrat.com/article/20081109/NEWS/811090337/1315?Title=Daring_plan_to_meet_climate_change_goals

Julia Butterfly Hill**b.1974****Environmental Hero
California**

On December 10, 1997, 23-year-old Julia "Butterfly" Hill climbed into a 180 foot California Coast Redwood tree to prevent loggers from cutting it down. She put her own life on the line to save the life of a forest that was under immediate threat of destruction. She spent two years on that tree-top and attracted world-wide attention for her non-violent action in defense of the forest

http://en.wikipedia.org/wiki/Julia_Butterfly_Hill

Linda M. Hiltabrand**b. 1953****Environmental Protection Specialist, IL Department of Natural Resources,
Office of Mines and Minerals
Illinois**

For 30 years Linda Hiltbrand has been employed by the Illinois Office of Mines and Minerals representing the state regulatory authority in northern Illinois. Her work with the sand and gravel producers to make sure they are following their approved reclamation plans has resulted in several sites winning awards for their innovative post-mining land uses.

Mary Hultman**b.1955****Educational Naturalist****Ohio**

Serving as one of the first naturalists for the Stark County Park District in Ohio since 1986, Mary Hultman has been instrumental in educating thousands of local school children. She has pioneered the use of live wildlife in the classroom, and has mentored hundreds of Boy and Girl Scouts. She also established the Sanders Wildlife Rehabilitation Center that treats more than 1,300 animals per year.

<http://video.aol.com/video-detail/sanders-wildlife-rehab-center/1445375941>

<http://www.ohiogamefishing.com/community/archive/index.php?t-91617.html>

Martha Brookes Hutcheson**1871 – 1959****Landscape Architect****New Jersey**

Martha Brookes Hutcheson was one of the first women landscape architects in America. She incorporated native plants in all of her designs and blended the surrounding areas with formally executed gardens. In 1923, she published *The Spirit of the Garden*, a book about gardens primarily using those she had designed to illustrate her principles of landscape architecture.

www.morrisparks.net

Dr. Roz lasillo**b.1958****Environmental Science Educator****Illinois**

Dr. Roz lasillo developed the first environmental science class taught at the secondary level in Illinois. She has influenced and inspired thousands of her students to live sustainable lives and be good stewards of the earth's resources by volunteering at community clean-up days, prairie seed collecting, and the yearly removal of non-native plants from local forest preserves. Her enthusiasm and commitment to our earth is boundless.

www.motherscauley.org

www.illinoisolarschools.org

Pam Iorio
Mayor of the City of Tampa
Florida

Mayor Iorio is committed to making tangible improvements during this decade that will protect our natural environment for future generations. The programs and services are designed to be economically viable, environmentally sound and socially equitable to become a green city. The opportunity to partner with all residents in making changes to ensure our city is ready to meet future challenges.

www.TampaGov.net/dept._green_tampa

Marietta Pierce Johnson
1864 1938
Progressive Educator
Minnesota Alabama

Marietta Johnson was one of the early pioneers of progressive education. She was a charismatic speaker who lectured all over the world on her unique philosophy of Organic Education. Organic Education is dedicated to creating an environment that fosters freedom of expression, love for learning, and tolerance. In 1907, she founded her Organic School of Education in Fairhope, Alabama where she worked until her death in 1938. www.mariettajohnson.org

Victoria Johnson
b. 1953
Renaissance Woman
California

Victoria Johnston is the Project Facilitator for the Salmon Creek Falls Environmental Center in Occidental, California, which provides educational opportunities for students and the greater community fostering eco-sustainability. This innovative enterprise seeks to inspire a revolution in building design and teach environmental green principles. It will be the first building in Sonoma County and California public K-8 school to obtain a LEEDTM Platinum Certification.

Greenazine.blogspot.com

<http://www.heritagesalvage.com/salmoncrWindfall.html>

<http://www.bodeganet.com/landtrust/documents/BLTNewsletter%2020.pdf>

Elizabeth Donnell Kay

1895-1987

Nurse, Businesswomen, Charity Worker, Environmentalist

New Jersey Florida

In 1924, Elizabeth Donnell Kay, started a home-based herb mail-order business. By 1932, she was teaching about the importance of preserving native plants and educating farmers about the harmful practice of setting fire to their fields each year after harvest. In 1960, Elizabeth and her husband created the *Pine Jog Environmental Sciences Center*, which today under the auspices of Florida Atlantic University, 16,000 children visit annually

<http://www.historicchesternj.com/peopleplaces/miscellaneouspeople.html>

Eryn Klosko

b.1971

Assistant Professor, Physical Sciences

New York USA

Eryn Klosko teaches the science of global warming and sustainability. She spearheaded Westchester Community College's participation in Focus the Nation in 2008. She has published extensively for *New York Science Teacher*, *Computers and GeoScience*, and *Geophysical Research Letters* and has worked for the SCEC E-cubed project. She also advises a club of students engaged in sustainability efforts.

<http://adsabs.harvard.edu/abs/2002GeoRL..29h..29H>

<http://portal.acm.org/citation.cfm?id=348813>

Anne Bowes La Bastille

b.1938

Ecologist

New York

Ecologist Anne LaBastille studied a flightless bird, the great pied-billed grebe, which survived in spite of living in a wildlife refuge, earthquakes, and polluted streams likely to make the species extinct. In the early 1970s Dr. La Bastille moved to a cabin in New York's Adirondacks. Her solitary life led her to write

Woodswoman. In 1980, she profiled 15 women naturalists in **Women**

andWilderness. http://en.wikipedia.org/wiki/Anne_LaBastille.

Osprey Orielle Lake

b.1959

Sculptor, Public Speaker, Teacher

California

Osprey Orielle Lake, one of the world's few female monument makers working in allegorical and abstract images. She utilizes the power and beauty of nature-themed images and narratives to inspire people to learn about and care for the earth. Her international art projects bring attention to protecting the environment by enlivening the urban landscape with statues that celebrate nature.

<http://www.ospreyoriellelake.com/Welcome.html> <http://www.cheemahproject.org/>

Abbe Land**b.1955****Mayor Pro Tempore City of West Hollywood
California**

Abbe Land, California, has initiated several of West Hollywood's landmark environmental policies, including its Green Building Ordinance, the nation's first mandatory program for commercial and residential buildings. Because of her efforts, the City's new library will be a certified LEED Silver building. She co-sponsored a Heritage Tree Preservation Program to protect the City's trees and increase its urban canopy. www.weho.org
<http://www.weho.org/index.cfm/fuseaction/detail/navid/16/cid/4252/>

Lora Ledermann**b.1967****Advertising, Marketing and PR Agency Owner and Creative Director
Colorado**

Lora Ledermann acts on her commitment to protecting the environment through business

practices such as aggressive recycling programs and efforts to reduce waste and is contributing her professional skills by taking on pro-bono clients such as the one-year Save the Poles expedition to the North and South poles and Mount Everest to raise awareness of global warming and develop educational materials.

www.screamagency.com and <http://www.linkedin.com/pub/0/b97/904>

Donna Lewis**b.1972****Curator of Biology, Dayton Society of Natural History
Ohio**

As a life-long environmental educator, Donna Lewis has dedicated her personal and professional life to creating an understanding of all animals. In addition to innovative public programs, her children's books focus on introducing animals that tend to be under-appreciated, like bats and crows. As an active wildlife rehabilitator, Lewis has also traveled locally and globally in her efforts to educate others and rescue injured wildlife.

Hunter Lovins**Founder and President of Natural Capitalism
California**

Hunter Lovins has worked diligently for decades to develop solutions that would help human beings maintain and sustain the environment in which we live.

Hunter has proposed that...“Citizens, communities, and companies, working together within the market context are the most dynamic problem-solving force on the planet”. She is Time Magazine's millennium “ Hero of the Planet”.

http://en.wikipedia.org/wiki/Hunter_Lovins

<http://www.natcapinc.com/>

Dr. Meg Lowman
Forest Conservation Biologist/Science Educator
Florida

Pioneer of treetop exploration, Lowman is affectionately called “Grandmother of canopy research” by colleagues. Author of 100 publications, 6 books including both definitive texts and she has chaired three international canopy conferences. She has also “starred” on National Geographic television; runs a foundation for tropical forest conservation; and has mentored over 10 million students via distance learning. “No child left indoors” is her personal mantra.

www.canopymeg.com; www.treefoundation.org

Joanna Macy

b. 1929

Eco-philosopher and Writer, Scholar of Buddhism, General Systems Theory, and Deep Ecology
California

Joanna Macy has created a ground-breaking theoretical framework for personal and social change. She has written many books and led workshops for thousands of people around the world. Her “Work that Reconnects” brings a new way of seeing the world, helping to transform despair and apathy, in the face of overwhelming social and ecological crises, into constructive, collaborative action.

www.joannamacy.net, http://en.wikipedia.org/wiki/Joanna_Macy

Judy Kellogg Markowsky

b.1945

Environmental Educator and Activist
Maine

Judy Kellogg Markowsky, environmental educator and advocate, was the primary force in founding Maine Audubon Society's Fields Pond Nature Center and “green” facility. Thousands of students have benefited from her "Secrets of the Forest" programs. A Rachel Carson devotee, she speaks frequently about Carson. She led a successful opposition to Walmart's building near Penjajawoc Marsh, a unique wetland in Bangor.

<http://www.maineaudubon.org/explore/centers/fpond.shtml>

Sharon Rose Matola

b.1954

Conservationist
Maryland Florida International

Sharon Matola worked in Belize where she became the prime mover in arousing consciousness of citizens and the Belize government to the fears of extinction of the country's wildlife and removal of wilderness areas. In 1991, she was founder and director of the Belize Zoo, which uses the zoo's wildlife preservation area to save at least 4 tapir species which faced extinction.

Mary Eliza McDowell

1854-1936

Social Reformer

Illinois

Mary Eliza McDowell **was** known as “The Duchess of Bubbly Creek” for leading the efforts to clean up the South Branch of the Chicago River, a stinking and unsanitary waterway into which was dumped animal waste and carcasses from the nearby slaughterhouses. From 1894 to 1923, she led the University of Chicago Settlement House and pressed the city government build incinerators in place of open garbage dumps.

http://womenshistory.about.com/od/wtulwomen/p/mary_mcdowell.htm

Rose Marie Williams McGuire

b.1936

Artist Educator Poet & Illustrator

Georgia

Rose Marie Williams McGuire as artist, educator, poet, and illustrator has worked in several mediums for fifty-four years teaching the spectrum of ages. Her sculptures and printed works reflect the recycled objects in everyday use. **Found Objects** is the central them of her art, which is on exhibit in THE PETTIE HOUSE GALLERY in Atlanta, Georgia.

aucdigestm ail@aol.com

Dr. Jeannie McLain

b. 1960

Research Microbial Ecologist

Arizona

A research microbiologist at the USDA-Agricultural Research Service, Jeannie works to develop methods to increase the safety and efficiency of using recycled water to replenish dwindling water supplies throughout the world. She works with local and regional community organizations to increase public confidence in recycled water, and provides yearly internships to young women interested in research careers in environmental science.

<http://www.ars.usda.gov/pandp/people/people.htm?personid=33819>

Donella (Dana) Meadows

1941-2001

**Scientist (Biophysicist) Author, Leader in the Sustainability Movement
Vermont**

Donella Meadows pioneered research regarding the human impact on the global ecosystem-examining trends in population, environment, and economics. As lead author of "Limits To Growth", she stirred worldwide thinking and dialog about sustainability. An inspiring teacher, gifted author, and exemplary leader, she is also the founder of the Sustainability institute and co-founder of the International Network of Resource Information Centers.

www.sustainer.org

www.sustainabilityinstitute.org

Tanya Narath

b. 1963

**Executive Director & CEO, Leadership Institute for Ecology and the
Economy
California**

Tanya Narath is the Executive Director and CEO of the Leadership Institute for Ecology and the Economy. Under her collaborative and inspiring leadership, the Institute's Leadership Training for a Sustainable Future program has developed a network of over 250 powerful leaders who are creating public policy that is environmentally friendly and socially equitable for a healthy economy and a sustainable community.

<http://www.greatcommunities.org/profiles/tanya-narath/>

Shirley Nelson

**Health Promotion /Disease Prevention Coordinator
Arizona**

Ms. Shirley Nelson leads the Navajo Nation Trash Taskforce, a group of volunteers,

government officials and concerned citizens, who have a common interest in educating the public about the Nation's solid waste problem. She works to educate communities on ways to become proactive in solving the solid waste issue in their communities and providing technical assistance that is otherwise lagging on certain parts of the Navajo Nation.

http://www.healthynativecommunities.org/forums/message_list.jsp?topic_id=96

Roberta J. Nichols
1931-2008
Research Engineer
California

Roberta Nichols began research for alternative fuels at Ford Motor Company in 1979. She and her team developed ethanol-fueled engines and she oversaw the building of 27 natural gas trucks and worked on sodium-sulfur technology for batteries and electric vehicles. Nichols was the first woman elected to the Society of Automotive Engineers. She earned Aerospace Corporation's Woman of the Year and Society of Women Engineers Achievement Award in 1988.

<http://www.cert.ucr.edu/news/nichols-letter.asp>

Dr. Sharon Nunes
Vice President, Big Green
New York

Sharon Nunes leads an organization created to identify and launch new businesses for IBM focused on using IBM's information technology expertise and IBM's materials & processing expertise to solve critical problems around environmental issues. IBM's approach to this initiative is focused on collaborative innovation, highlighting the need for multiple parties to come together to solve the world's important problems.

<http://www-03.ibm.com/technology/greeninnovations/>

Lorrie Otto
b.1919
Founder of Wild Ones Natural Landscapers
Wisconsin

Through her passion as a founder and leader of the natural landscaping movement for the last 50 years, Lorrie Otto has educated, inspired and mentored us to see the transformation of our lifeless lawns into natural landscapes as not mere gardening, but as a conservation effort to help restore habitat for a diverse community of species. Her legacy "grows" with each passing season.

<http://www.wchf.org/inductees/otto.html>

<http://www.jsonline.com/realestate/32477709.html>

Rebecca Otto
b.1963
Minnesota State Auditor
Minnesota

Rebecca Otto's commitment to a greener planet is demonstrated by her family's passive solar, wind-powered home. As a Minnesota State Representative she worked to protect ecosystems, limit mercury emissions, protect groundwater, promote the development of commercial wind power, and ban the use cancer-causing arsenic-treated wood in playgrounds..

www.rebeccaotto.com

www.osa.state.mn.us

Linda Petee**Sustainability and Risk Management Coordinator for Delta College
Michigan**

Linda started the recycling program at the college many years ago. Under her leadership the college has adopted a triple bottom line approach that incorporates financial, environmental and social benefits in all college decision making. She has created a green cleaning program for the custodial service and has encouraged conservation through out the college. Ms. Petee organized an eco-friendly style show at a local art center.

www.delta.edu/evergreen

<http://www.communitycollegetimes.com/article.cfm?TopicId=34&ArticleId=1059>

Agnes Baker Pilgrim

b.1924-

Siletz Tribal Member

Grandmother Agnes Baker Pilgrim is one of the 13 Indigenous Grandmothers who are part of a global alliance; to work together to serve both their common goals and their specific local concerns. Their traditional ways link them with the forces of the earth. Their solidarity with one another creates a web to rebalance the injustices wrought from an imbalanced world. The International Council of 13 Indigenous Grandmothers

<http://www.grandmotherscouncil.com/>

Val Plumwood

1939-2008

Eco-Feminist Philosopher**Australia International**

Val Plumwood was highly influential in defining and promoting a feminist environmental philosophy. She was an inspiring role model whose work and life embodied the principles of honor and respect for the environment. Her classic work, **Feminism and the Mastery of Nature** is essential reading to understand the cultural, historical, and philosophical issues involved in the environmental crisis that threatens our survival. www.Valplumwood.com

Dr. Diana Post**Executive Director/President of the Rachel Carson Council, Veterinarian,
Author, Environmentalist****Maryland**

Inspired by Rachel Carson's book, *Silent Spring*, Dr. Post became an expert in pesticide toxicology and has been at the forefront supporting regulations to protect people and animals from pesticide poisoning. She has authored extensive publications on pesticides, public health and the environment. Dr. Post is deeply committed to working for a healthier planet.

www.healthfinder.gov/orgs/HR1577.htm

<http://www.begellhouse.com/journals/33b67499180f0876.html>

Tobey Silbert Schein Prinz

1911-1984

Teacher, Union Organizer, Community Activists

Illinois

Tobey Silbert Schein Prinz working with other community activists she organized the Rogers Park Community Council (RPCC). In 1954, RPCC successfully blocked condominium development of the Lake Michigan beachfront in the Rogers Park neighborhood, preserving the beach as public space. As a teacher and union organizer, she also fought for racial integration and tenants' rights.

Roxanne Quimby

b.1950

Founder of Burt's Bees, Visionary and Philanthropist

Maine

From a humble back-to-the-land émigré to Maine's North Woods, through her remarkable determination and entrepreneurship in forming the enormously successful cosmetics, Burt's Bees, for more than a decade she has turned her attention to purchasing and preserving many thousands of acres of Maine's forest land, protecting them in perpetuity from exploitation and development.

<http://www.yankeemagazine.com/issues/2008-03/features/quimby>

Amanda Quraishi

b. 1974

Freelance Writer

Texas

Amanda authors a blog called "Fashion, Evolved" that focuses on eco-friendly and sustainable fashion

www.evolvedfashion.com

http://www.ci.austin.tx.us/library/ea_media.htm

Torrey Reade

Owner/Operator Neptune Farm

New Jersey

This former Wall Street businesswoman looks right at home on her 126-acre organic farm. Torrey "uses grass-fed animals to bring her soil back to life". This advocate of sustainable farming serves as a mentor for new agronomists; establishing strong partnerships with local restaurants, providing her own produce and meats, and tips to prepare them to their maximum culinary potential.

Ellen Swallow Richards**1842-1911****Scientist****Massachusetts**

Richard was the first American women to earn a degree in chemistry, a pioneer in applying scientific principles to domestic situations such as nutrition, physical fitness, sanitation, and efficient home management, and creator of the field of home economics. She undertook the first scientific water quality studies in America and is called the founder of ecology.

www.bwht.orghttp://en.wikipedia.org/wiki/Ellen_Swallow_Richards**Sally K. Ride****b. 1951****Scientist, Astronaut, Founder of Sally Ride Science****California USA**

Sally was the first American woman in space and established nationwide Sally Ride Festivals for Girls. As a scientist addressing Global Climate Change, she has published many resources addressing the topic for schools. Her professional conference during the summer of 2008 brought together leading scientists and educators which provided a phenomenal setting for awareness on the earth's environmental concerns.

www.sallyridescience.com<http://www.jsc.nasa.gov/Bios/htmlbios/ride-sk.html>**Elsie Roemer****1893-1991****Retired Teacher**

California Mrs. Roemer was a conservation list who aided and established the guidelines for the preservation of Alameda and San Leandro Bay marsh lands. Her study, care, and well-being of endangered birds was recognize by the East Bay Regional Park District by naming a bird sanctuary on the Alameda Bay tide lands in her honor.

www.alamedasun.com**Mary Rozmajzl****National Park Service Midwest Regional Environmental Specialist****Michigan Wisconsin Wyoming Colorado and Nebraska**

Mary Rozmajzl has been an Environmental Educator in Michigan, Wisconsin, Wyoming, and Colorado. Through her work she has instilled a love for nature and the environment in the minds of both young and old. Through her current work, Ms. Rozmajzl has created an all-encompassing office recycling campaign and spread her "Go Green" attitude to all of the parks in her region.

www.zoominfo.com/people/level3page225651.aspx

Maxine Lazarus Savitz

b.1937

Organic Chemist

Massachusetts

Maxine Lazarus Savitz earned a Ph.D. in organic chemistry from MIT in 1961. She taught at the University of California, Berkeley where she strongly encouraged women to enter engineering fields. Her research includes work on free radical mechanisms, anodic hydrocarbon oxidation, fuel cells and improved use of energy in buildings. Her work resulted in the development of energy saving electrical technology and alternate fuels for cars.

Carolyn M. Scott

b. 1955

Founder and Executive Director of Turtle Island Films

California

Carolyn Scott is an environmental activist, writer, filmmaker whose mission is to bring "green" films and media to a large audience. Turtle Island Films is developing a visionary project: REEL GREEN, which uses sophisticated web technologies to distribute award winning films and activist toolkits to lead organizers for catalyzing events. A founding member of the Biofuels Research Cooperative in Sonoma County, Carolyn runs her car on organic, carbon neutral biodiesel. <http://www.thereelgreen.org>; <http://www.turtleislandfilms.com/>

Kate Shackford

b.1951

**Vice President, Bronx Overall Economic Development Corp. & Director,
Bronx Initiative for Energy and the Environment**

New York

Ms. Shackford leads environmental initiatives and programs. She has been able to lead the Bronx as the foremost "green" borough in New York City and has assisted the entire City in becoming more socially and environmental conscious. She has the ability to prove that she can take on any task and make it successful, while simultaneously exhibiting her dedication to the community.

www.boedc.org/biee

Mary Belle King Sherman

1862-1935

Conservationist, Advocate, Clubwoman

Illinois

Mary Belle King Sherman (1862-1935) is known as the "National Park Lady" for helping to create the National Park Service in 1916. As Conservation chairman of the General Federation of Women's Clubs (1914-1920), she promoted programs that resulted in six new national parks. In 1918, as the sole woman on the National War Gardens Commission, she established National Garden Week.

<http://lcweb2.loc.gov/service/gdc/scd0001/2000/20001109005wo/20001109005wo.pdf>

Ellen K. Silbergeld

b.1945

Environmental Toxicologist and Research Scientist

Maryland

Ellen Silbergeld is an environmental toxicologist and researcher who was the person primarily responsible for having lead, a major environmental and health hazard, removed from gasoline. She has been an activist in addressing lead contamination in water and has worked for the Environmental Defense Fund, the University of Maryland Medical School, and the Bloomberg School of Public Health at Johns Hopkins University. www.faculty.jhsph.edu;

http://en.wikipedia.org/wiki/Ellen_Silbergeld;

http://www.daylife.com/words/Ellen_Silbergeld

Sandra Smith

b.1960

State Farm Sales Associate

Alabama

This great woman has organized a program based out of Leland Mississippi called: H.O.M.E.(Helping Others Means Everything) where senior citizens are adopted and afforded the opportunity to share with other senior citizens of the community. Every 5 th Saturday a meeting is held with the members and the adoptees to come together, eat, share, and reflect upon the beauty of the senior citizens that have been adopted. Her goal is to go worldwide with the program because she truly believes that everyone, especially senior citizens need to be shown how much they are loved and cherished.

Sister Dorothy Stang, SNDdeN

1931 –2005

Educator, Activist, Environmentalist

Brazil

Sister Dorothy Stang, who was an American nun murdered in the Brazilian Amazon rainforest because she opposed the illegal loggers and cattle ranchers who were clear cutting the forest for pasture. Sister Stang was an educator and activist, who worked tirelessly for the right of poor farmers to acquire land for sustainable farming. After her death Brazil increased its protection of its rainforest.

<http://ncrcafe.org/node/1356>

www.imdb.com/name/nm3186436/bio

Marion Stoddart

b.1928

Environmental Pioneer and Activist

Massachusetts

During the 1960s, the Nashua River made the top 10 list of most polluted rivers in the U.S. Then Marion Stoddart got involved, building a citizen coalition that changed laws, attitudes, and restored the river. In the process, Marion won the *United Nations Global 500 Award*, was profiled in *National Geographic*, and had a widely-read children's book written about her.

<http://www.workof1000.com/>

Robyn (Staup) Sweet

b. 1976

Senior Coordinator Boonshoft Museum of Discovery, Dayton, OH)

Ohio

A former high school science teacher, Robyn Sweet is an environmental science educator who uses hands-on field research to inform her work with the public. A Master Teacher at the Ocean Sciences Leadership Institute, Sweet was also selected as a Polar TREC Teacher in 2007, where she was paired with a researcher for a five-week study of the Bering Sea ecosystem.

<http://www.polartrec.com/bering-ecosystem-study>

www.boonshoftmuseum.org

Kathleen C. Taylor

b.1942 Physical Chemist

Massachusetts

Kathleen Taylor, physical chemist, worked with her co-workers at General Motors to invent a catalytic converter to convert nitric oxide into nitrogen gas. This improved catalytic converter was introduced in 1975, help reduce smog emissions. She directed General Motors's Materials and Processes Laboratory and the Physical Chemistry Department. In 1988 Dr. Taylor received the Garvan Medal of the American Chemical Society, sponsored by Olin Corporation.

http://www.chemheritage.org/women_chemistry/enviro/taylor.html

Anne P. Teller

b.1931

Owner/Manager of Oak Hill Farm

California Montana USA

In the early 1980's, Anne Teller began growing vegetables primarily for her family and friends at Oak Hill Farm in Glen Ellen, California. Today, all farming is done under a sustainable agriculture/organic farming model. Ms Teller continues to prepare thousands of annual seedlings for spring transplant into the fields, propagating perennials, and nurturing plants all over the farm from transplant to harvest.

<http://www.oakhillfarm.net>

<http://www.theteller.org>

Tina J. Terrell

b.1964

**Forest Supervisor, Sequoia National Forest, USDA Forest Service
California**

Tina Terrell is the Forest Supervisor on the Sequoia National Forest for the USDA Forest Service. She has worked to diversify Forest Service personnel and the forestry profession, and to educate young people in urban areas about natural resources. She is also very active in the Society for Minorities in Agriculture, Natural Resources and Related Sciences,

<http://www.fs.fed.us/r5/news/2007/newsupervisor-sequoia.shtml>

Laurie Tippin

b. 1955

**Director of State and Private Forestry, USDA Forest Service
California**

Laurie Tippin is the Director, State and Private Forestry for the USDA Forest Service. She is a forester by profession and has a solid experience in forest management, stewardship contracting and fuels reduction; has provided national oversight to timber sale litigation. She has an exemplary reputation for professionalism and for dealing with difficult issues by finding common

<http://www.fs.fed.us/r5/newslog/september2004/focus/lassen-sup.html>

Nichole Trushell

b. 1955

**Founder and Retired Director of the Highlands Center for Natural History
Arizona**

In 1991, Nichole began developing experiential learning, educational activities, helping children discover nature and become wise caretakers of the land. Under her leadership in 2007, HCNH constructed a premier, regional, over \$3 million gold-rated LEED campus (on 80 acres of National Forest land) which showcases green building strategies, drought tolerant landscaping, fire-wise living, water conservation, and a waste management-constructed wetlands.

www.highlandscenter.org

Lillian Wald

1867-1940

**Mother of Public Health Nursing & Pioneering Social Worker
International**

In 1893, when NYC's Lower East Side was the world's most crowded slum, Lillian Wald founded Visiting Nurse Service of New York, becoming the "mother of public health nursing." Recognizing needs of the urban poor that eclipsed health care, Wald added social services. She fought child labor and helped secure creation of the federal Children's Bureau. Wald was inducted into the National Women's Hall of Fame in 1993.

Alice Waters**b.1944****Founded Chez Panisse Foundation****California**

Alice Waters is a pioneering cook, restaurateur and food activist. In 1996, she launched Chez Panisse Foundation to inspire students to choose healthy food and help them understand how their choices affect their health, their communities, and the planet. The programs include replacing school cafeteria canned fruits and vegetables with fresh fruit and vegetables, and developing school yard organic gardens where students cultivate food that they also prepare, serve and eat.

www.chezpanissefoundation.org

May Petrea Theilgaard Watts**1893-1975****Teacher and Author****Illinois**

Teacher and author, May Petrea Theilgaard Watts, served as a naturalist from 1942-1957 at the Morton Arboretum west of Chicago. Her educational programs were used as models for other institutions. She founded the Illinois Prairie Path, a foot and bike path of almost thirty miles also west of Chicago, and led efforts to transform old rail lines into public trails. <http://www.ipp.org/GUI/index.html>.

http://en.wikipedia.org/wiki/May_Theilgaard_Watts

Elizabeth Coleman White**1871– 1954****Agriculturalist****New Jersey**

Elizabeth Coleman White grew up on her father's cranberry farm and developed an interest in commercial agriculture. She pioneered the cultivation of the [blueberry](#). Collaborating with Fredrick Coville, she developed develop a commercial blueberry based on the sweetest and hardiest of the wild varieties of blueberries growing in the NJ Pine Barrens. She also helped start the NJ Cooperative Blueberry Association.

http://en.wikipedia.org/wiki/Elizabeth_Coleman_White;

www.distinguishedwomen.com/biographies/white-ec.html

Janice S. Wiles

b. 1956

Executive Director, Friends of Frederick County (Maryland) Programs of Land and Cultural Preservation Fund, Inc.

Brazil Maryland

In 1984, when a fledgling Brazilian democracy opened the door to free speech and organization, Janice Wiles provided support and guidance for Brazilians about managing and conserving natural resources. Today, many of those young conservationists hold positions of national leadership. In Frederick County, MD, Janice leads a grassroots movement encouraging sustainable growth, preservation governance and citizen involvement in decision-making.

<http://www.friendsoffrederickcounty.org>

<http://www.we-draw-the-line.org>

Ann Wilson

b.1955

Superintendent of Environmental Services

Louisiana

Ann Wilson's commitment to a greener environment and her ability to bring people together has resulted in the success of several environmental projects. These projects include: recycling Christmas trees for coastal restoration; organizing household hazardous waste collections; creating non-point source pollution awareness projects, litter-free Mardi Gras parades; and protecting drinking water sources by implementing the Well Head Protection Program.

www.kab.org/site/DocServer/2003_annual_review.pdf?docID=123

www.kab.org/site/DocServer/2006_KAB_annual.pdf?docID=501

Diane Wilson

b.1948

Environmental Activist

Texas

Diane Wilson is a fourth-generation shrimper, who began fishing at the age of eight. Her environmental activism began when she learned that Formosa Plastic dumping toxins into the bay made her home of Calhoun County, Texas the number one toxic polluter in the country. Although she was threatened by thugs and despised by her neighbors, Diane insisted that the truth be told.

<http://www.texasgoldmovie.com>;

http://www.chelseagreen.com/authors/diane_wilson/

Esther Yanai
1928–2003
Agriculturalist
New Jersey

Esther Yanai was a giant in New Jersey's conservation movement. A founding member of Save the Environment of Moorestown (STEM), which preserves and protects the community's open space, she was the driving force behind the creation a natural resources inventory (NRI) for the Township and an open space inventory for Moorestown's first Open Space Committee and later the Moorestown Environmental Advisory Committee.

<http://www.njconservation.org/html/swi/5-12-04.htm>

Elementary/Secondary Classroom lessons/Activities



Test Your Knowledge of Women's History

Questions & Answers

1. Who founded Bethune-Cookman College, established the National Council of Negro Women, and served as an advisor on minority affairs to President Franklin D. Roosevelt?
2. What woman was the first African-American woman to win the Nobel Prize for Literature?
3. What Black woman refused to give up her seat to a White man, in Montgomery, Alabama, in 1955, thus sparking the civil rights movement of the following decade?
4. Who was the first woman to run for President of the United States (1872)?
5. Who opened up social work as a profession for women, and also won the 1931 Nobel Peace Prize for her anti-war organizing work?
6. Which Mexican-American woman was a leading money winner in the Ladies Professional Golf Association?
7. Who was the first woman Poet Laureate of the United States?
8. Who was the first "First Lady" to have developed her own political and media identity?
9. Who wrote the first version of the Equal Rights Amendment in 1923?
10. Who was the first Black woman elected to Congress?
11. What leading suffragist was arrested and convicted of attempting to vote in the 1872 election?
12. Who was the first Chinese-American woman ever elected to hold a statewide office in the United States?
13. What journalist traveled around the world in 72 days in 1890?
14. What woman was turned down by 29 medical schools before being accepted as a student, graduated at the head of her class, and became the first licensed woman doctor in the U.S.?
15. What former slave was a powerful speaker for the rights of women and Black people?
16. When was the Equal Rights Amendment first introduced into Congress?

17. Who was the last queen of the Hawaiian Islands, deposed because American business interests wanted to annex Hawaii to the U.S.?
18. Which woman was banished from the Massachusetts Bay Colony for holding religious discussion meetings in her home?
19. Who spoke out for the advancement of American Indians' rights from speaker's platforms nationwide and before Congressional committees in the 1880s?
20. Who drove a stagecoach across the roughest part of the West without anyone knowing until she died that she was a woman?
21. Who was the first Hispanic woman to serve as U.S. Treasurer?
22. Who was the Shoshone Indian woman who served as guide and interpreter on the Lewis and Clark expedition?
23. Who was Chair of the Board and publisher of The Washington Post and Newsweek magazine, and also oversaw six broadcasting stations?
24. About 20,000 women shirtwaist workers staged a strike for better working conditions. Their action was called the "Uprising of the 20,000." When and where did his strike occur?
25. When did officials of Little League Baseball announce that they would "defer to the changing social climate" and let girls play on their teams?
26. As vice president of the United Farm Workers, what woman has been vital in speaking for civil and economic rights for farm workers throughout the U.S.?
27. When did Title IX of the Education Amendments of 1972 go into effect, prohibiting discrimination on the basis of sex in federally funded school programs and activities?
28. What woman was invited to teach nuclear physics at Princeton University, even though no female students were allowed to study there?
29. What woman served as a "conductor" on the Underground Railroad, freeing hundreds of southern slaves and leading them to safety in the North? A \$40,000 reward was offered for her capture.
30. What woman is credited with helping free more than 2,000 Chinese women and children smuggled into San Francisco to be sold as slaves?
31. Who was the first African American woman to have her works published?
32. Which mother led a 125-mile march of child workers all the way from the mills of Pennsylvania to President Theodore Roosevelt's vacation home on Long Island?
33. One of the most important Union spies and scouts during the Civil War was a Black woman who had escaped from slavery. Can you name her?

34. Before the 1960s, farm workers in the U.S. were not paid even the minimum wage, and had no influential representatives to fight for their rights. What part did Dolores Huerta play in changing this situation?

35. The line of beauty products she created for African–American people made her the first Black woman millionaire in the United States. Who was she, and when did she do this?

36. She came to the U.S. when she was a teenager to study science and stayed to become “the world’s foremost female experimental physicist.” Her most famous experiment disproved what had been thought to be a fundamental scientific law. Who is this outstanding Asian–American scientist?

37. She took her job as “First Lady” seriously, traveling the country and the world to gather information about the problems and concerns of workers, children, minorities, and the poor. She wrote a daily newspaper column and made frequent radio broadcasts. Who was this active wife of a president?

38. When the Mexican Revolution of 1910 reached the Texas border, she and her friends organized La Cruz Blanca, The White Cross, to take care of the wounded. They nursed people from both sides of the fighting. She was also known as a journalist and community activist. Who was she and where did she live?

39. Who was the last reigning monarch of the Hawaiian Islands, deposed when American business and military interests wanted to annex Hawaii to the U.S.?

40. She opened “Hull House” in a run–down Chicago neighborhood, a community center to improve conditions for poor immigrants. The program of English–language classes, childcare, health education and recreational opportunities soon inspired hundreds of other settlement houses throughout the country. Her name?

41. Daughter and granddaughter of Paiute Indian chiefs from Nevada, she lobbied Congress, wrote extensively, and traveled across country during the late 1800s lecturing on the hardships brought upon Native Americans by the U.S. Government. Her name?

42. Her 1939 Easter Sunday concert on the steps of the Lincoln Memorial drew a crowd of 75,000. Who was she, and why was she singing there?

43. Who printed the first copy of the Declaration of Independence that included the signers’ names?

44. Clara Barton (1821–1912) is best known for founding the American Red Cross, but she also played a vital role during the Civil War. What did she do?

45. She is regarded as the greatest ballerina born in America. Her father was the Chief of the Osage Indians. Can you name her?

45. Why is Rachel Carson (1907–1964) considered the mother of the environmental movement?

Answers

1. Mary McLeod Bethune (1875–1955)
2. Toni Morrison (b. 1931)
3. Rosa Parks (b. 1920)
4. Victoria Woodhull (1838-1927)
5. Jane Addams (1860-1935)
6. Nancy Lopez (b. 1957)
7. Rita Dove (b. 1952)
8. Eleanor Roosevelt (1884-1962)
9. Alice Paul (1885-1977)
10. Shirley Chisholm (b. 1924)
11. Susan B. Anthony (1820-1906)
12. March Fong Eu (b. 1929)
13. Nellie Bly (1867-1922), real name Elizabeth Cochran Seaman
14. Elizabeth Blackwell (1821-1910)
15. Sojourner Truth (c. 1797-1883)
16. 1923
17. Queen Liliuokalani (1838-1917)
18. Anne Hutchinson (1591-1643)
19. Sarah Winnemucca (1844-1891)
20. Charlie Parkhurst
21. Romana Bañuelos (b. 1925)
22. Sacajawea (c. 1786-1812)
23. Katherine Graham (b. 1917-2001)
24. 1909, New York City
25. 1974
26. Dolores Huerta (b. 1930)
27. 1976
28. Chien-Shiung Wu (1912-1997)
29. Harriet Tubman (c. 1820-1913)
30. Donaldina Cameron (1869-1968)
31. Phillis Wheatley (1753-1784)

32. The feisty labor organizer, Mary Harris Jones (1830–1930), did just that in 1903. Called “Mother” Jones by everyone, her goal for the march was to bring the evils of child labor to the attention of the president and the national press
33. Harriet Tubman (1820–1913), who also led over 300 people in their escape from slavery via the system of safe–houses known as the Underground Railroad.

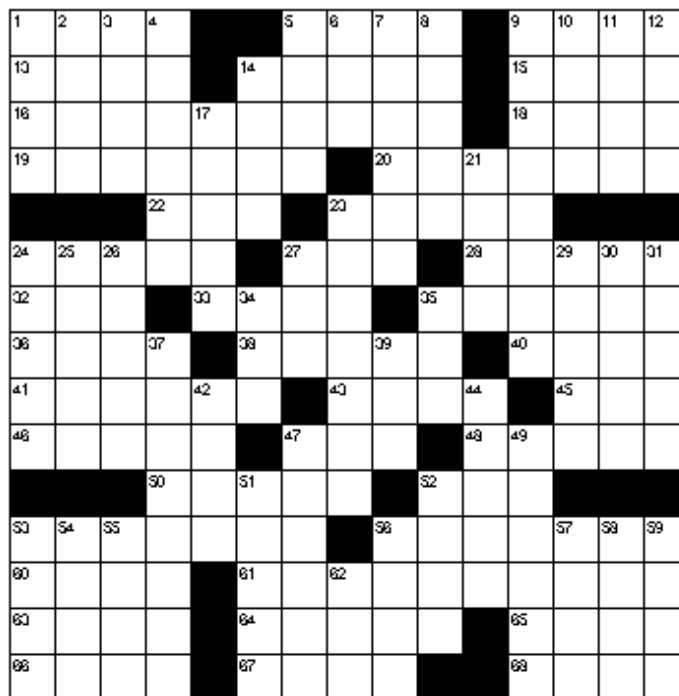
34. Dolores Huerta (b. 1930), a long–time Chicana labor activist, co–founded the United Farm Workers union in 1962. She served for over two decades as the union’s vice–president and chief lobbyist, savvy labor contract negotiator, and nationwide speaker.
35. In 1905, Madam C.J. Walker (1867–1919) began developing an effective hair lotion, and then a special comb to straighten curly hair. She eventually employed 3,000 people, mostly Black women, to work in her factories and sell her line of products.

- 36 Chien-Shiung Wu (1912 – 1997) received both the National Science Medal and the internationally respected Wolf prize for her scientific research. Her most famous experiment showed that conservation of parity could be violated in nature.
- 37 Eleanor Roosevelt (1884–1962) was America's First Lady for 12 years. Later, she served as U.S. delegate to the United Nations where she was instrumental in securing passage of the Universal Declaration of Human Rights.
- 38 Jovita Idar (1885–1946) lived in Laredo, Texas. As a journalist, she wrote articles for Spanish-language newspapers, like *El Progreso* and *El Heraldo Cristiano*, which argued for Mexican Americans' equal rights.
- 39 Queen Liliuokalani (1838–1917). A revolution, encouraged and actively assisted by American interests backed by a U.S. Navy gunboat, established a provisional government in 1893. Among her lasting legacies: she composed over 200 songs, including "Aloha Oe".
- 40 Jane Addams (1860–1935). One of the first generation of female college graduates at a time when the world was not yet ready to give educated women positions of responsibility, found her own way to lead a useful life. She won the 1931 Nobel Peace Prize for her lifetime dedication to the cause of international peace.
- 41 Sarah Winnemucca (1844–1891), later named a chief in her own right. Her autobiography, *Life Among the Piutes: Their Wrongs and Claims*, was one of the first books by a Native American.
- 42 Marian Anderson (b. 1902), who had earlier been barred from the singing in the Washington's Constitution Hall because she was Black. Her open-air concert was a triumph over bigotry for this international star.
- 43 Mary Katherine Goddard (1738–1816), newspaper publisher, had such a strong reputation in the colonies that when Congress fled to Baltimore in 1776 they trusted her with the revolutionary task of printing their treasonous document. Goddard risked arrest by the British when she included her own name as printer.
- 44 No provisions had been made for taking care of Union soldiers. Clara Barton (1821–1912) solicited donated supplies and took them directly onto battlegrounds, to get food, bandages, and medical supplies to the wounded. She also helped document the 22,000 men killed or missing in action so their families could be notified.
- 45 Maria Tallchief (b. 1925), gained international stardom as prima ballerina of the New York City Ballet in a career that spanned 23 years. In 1980, she and her sister, Marjorie, founded the Chicago City Ballet.
- 46 Rachel Carson (1907–1964), a writer and biologist, touched off an international controversy about the environmental effects of pesticides with her 1962 book, *The Silent Spring*. The book became a best-seller and the foundation of modern ecological awareness.

Women's History Puzzle

ACROSS

1. Olympic gold medal winner Lipinski
5. Band draped around Miss America
9. ___ mater (school one graduated from)
13. Spoken out loud
14. Similar
15. Tree dropping
16. Chemist who discovered radium with her husband; 2 wds.
18. Poet Angelou
19. Pittsburgh football player
20. Former First Lady Roosevelt
22. Head movement that means "yes"
23. Felony involving fire
24. Tie fastener
27. Org. that collects income taxes
28. "Perfect 10" gymnast Comaneci
32. Cotton gin inventor Whitney
33. Actress Lanchester or hostess Maxwell
35. Go higher and higher, like 53-Across
36. Fathers
38. "Wuthering Heights" novelist Brontë
40. Potato, in slang
41. With 53-Across, first woman to fly across the Atlantic
43. Perform like Billie Holiday
45. Communist leader Mao ___-tung
46. Where Dr. Laura Schlessinger can be heard
47. Brother or sister, for short
48. ___ and aahed (expressed amazement)
50. "You're Still the One" singer Shania
52. Weary traveler's stopover
53. See 41-Across



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- | | | |
|---|--|---|
| 56. Actress Bening or Funicello | 7. Athletes like Picabo Street and Katja Seizinger | 35. "Atlas Shrugged" author ___ Rand |
| 60. ___ vera (skin lotion ingredient) | 8. Shoe parts | 37. Like a snake or an eel |
| 61. Nancy Kerrigan and Michelle Kwan; 2 wds. | 9. Annually published fact books | 39. Women's ___ (feminist movement) |
| 63. Barbra Streisand, Helen Hunt or Madonna | 10. What Jack Sprat's wife couldn't eat | 42. Mamie Eisenhower's state of birth |
| 64. Shoe bottoms | 11. BLT topping | 44. "___ Fly Now" (theme from "Rocky") |
| 65. "Just you ___!" | 12. Worship from ___ | 47. "Murphy Brown" or "Roseanne" |
| 66. Member of the Conservative Party in Great Britain | 14. Scored 100% on | 49. "Testing, ___ three...": 2 wds. |
| 67. Thompson, Samms or Lazarus | 17. Run away and get married | 51. Get out of bed |
| 68. Korbut of the 1972 Olympics | 21. Long, long time spans | 52. Fluids inside pens |
| | 23. "___ in the Sun" (Lorraine Hansberry play); 2 wds. | 53. Where the sun rises |
| | 24. Moth-repellant wood | 54. Cher's voice range |
| | 25. Camel's South American cousin | 55. Lion's sound |
| | 26. Helped | 56. On the ocean |
| | 27. Suffix with symbol or social | 57. Greenish blue |
| | 29. Swimming pool measurement | 58. High school math course, for short |
| | 30. Occupied; 2 wds. | 59. "¿Cómo ___ usted?" ("How are you?") |
| | 31. Used a plus sign | 62. Massachusetts state tree |
| | 34. "Caroline in the City" actress Thompson | |

DOWN

1. "Uncle ___ Cabin" (Harriet Beecher Stowe classic)
2. "I smell ___!": 2 wds.
3. How some steaks are cooked
4. Extraterrestrials
5. Pronounce indistinctly
6. 53-Across's preferred mode of travel

Answers to puzzle

WOMEN'S HISTORY

T	A	R	A			S	A	S	H		A	L	M	A
O	R	A	L		A	L	I	K	E		L	E	A	F
M	A	R	I	E	C	U	R	I	E		M	A	Y	A
S	T	E	E	L	E	R		E	L	E	A	N	O	R
				N	O	D		A	R	S	O	N		
C	L	A	S	P		I	R	S		N	A	D	I	A
E	L	I		E	L	S	A		A	S	C	E	N	D
D	A	D	S		E	M	I	L	Y		S	P	U	D
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Women in the White House



Grades Elementary/Secondary

Description: In this lesson, students explore the role and impact of recent First Ladies through research and family interviews, then work in groups to present a documentary portrait to the class.

Learning Objectives

(1) To learn about the political and non-political careers of recent First Ladies. (2) To explore the possibilities and limitations of the position of First Lady. (3) To conduct historical research through oral history interviews.

Guiding Question:

How have recent First Ladies contributed to American society?

- 1 Begin by talking with students about the First Lady.
- 2 What do we mean by that term?
- 3 Who is the First Lady today?
- 4 Who are some other First Ladies the students may know about (e.g., Martha Washington, Eleanor Roosevelt)?
- 5 What does the First Lady do? Explain that in this lesson they will learn more about the role of the First Lady by exploring one recent First Lady's career in the White House.

*Divide the class into small research teams of 3-4 students and assign each team one of these recent former-First Ladies:

- Michelle Obama
- Barbara Bush
- Nancy Reagan
- Rosalyn Carter
- Betty Ford
- Pat Nixon
- Lady Bird Johnson
- Jacqueline Kennedy Onassis

* Have students research their First Lady using the resources of the [National First Ladies Library](http://www.firstladies.org/)
<http://www.firstladies.org/>

- Click the "[Bibliography](#)" button on the website's homepage for a visual index of all the nation's First Ladies, shown in chronological order.

- Click any picture to access bibliographic information about that First Lady, including lists of magazine articles, books, and manuscript collections, as well as a link to a brief biography of the First Lady at the [White House](#) website.
- For additional background, students can view a photo gallery of "[Past First Families](#)" at the [White House](#) website, and take a "[Historical Tour of the White House](#)" using an interactive map.
- Students can also learn more about their First Ladies at the Presidential Libraries, which are accessible through [The Digital Classroom](#) .
- Click "[Presidential Libraries](#)" in the left-hand column on this website's homepage for a list of online resources that includes the
- [John Fitzgerald Kennedy Library and Museum](#),
- the [Lyndon Baines Johnson Library and Museum](#), the [Nixon Presidential Materials](#) collection (which includes a link to the [Richard Nixon Library and Birthplace](#)), the [Gerald R. Ford Library and Museum](#), the [Jimmy Carter Library and Museum](#), the [Ronald Reagan Presidential Library](#), and the [George Bush Presidential Library and Museum](#).

4 As they gather facts about their First Lady, have each student research team brainstorm questions they will ask older family members about the First Lady's time in the White House.

- Direct students to draw up a list of at least five questions that all members of the group will use as the basis of their at-home interviews. These should include:
- **Biographical questions** about the First Lady's personality and memorable moments of her White House career.
- **Viewpoint questions** about the issues she championed as a First Lady and her impact on public opinion.
- **Contribution questions** that ask family members to sum up what the First Lady accomplished while in the White House or what she will be remembered for.
- **Assessment questions** that ask how the First Lady compares to other First Ladies the family member has known.

5 Have each student team member interview one or two older family members who lived during the First Lady's time in the White House. Students can record their interviews using a tape recorder or video camera, conduct the interview by email, or simply take notes. Encourage students to ask family members for their personal impressions and memories of the First Lady in order to gain a sense of her relationship with the American public and the role she played in society.

6 After they have conducted their interviews, have each student research team prepare a five to ten minute documentary portrait of their First Lady for presentation to the class. These presentations should include:

- A brief outline of events during the First Lady's time in the White House: major political and social developments, along with other historical landmarks.
- A short account of the First Lady's accomplishments: issues she championed, programs she supported, policies she helped establish.
- A description of the First Lady's influence on Americans of her time, based on the opinions and recollections gathered from the students' family members: What was she

like? What did people think of her? Does she seem more or less significant looking back on those times today?

7 Close this lesson with a class discussion on how students think a man will fit into the First Lady's role when Americans elect their first woman President. To what degree is this a gender-specific role, a focus for public concern with stereotypically feminine issues (family, children, health, beauty, culture)? To what degree is it a role open to any "partner in power" willing to take advantage of the public forum afforded by the White House? Conclude this discussion by having students write a brief imaginative news story about a male "First Lady" of the future, describing what he would say and do on a visit to your community.

Extending the Lesson

Have students use the resources of the [National First Ladies Library](#) website to investigate how the role of the First Lady has changed throughout our nation's history. Research the role of Michelle Obama as the First African American First lady. To what extent have our First Ladies reflected prevailing American attitudes about "a woman's place" in society? To what extent have they helped change attitudes?

Source: http://edsitement.neh.gov/view_lesson_plan.asp?id=334

Role Model?

Defining Michelle Obama's Role As First Lady



Grades: Elementary/Secondary

Objective: Students consider the public's interest in Michelle Obama, what she represents and how she may use her role as first lady to address and shape important issues.

Lesson Plan:

1. WARM-UP/DO-NOW:

- Before students arrive, place photographs of famous people you have pulled from celebrity, news, fashion, or tabloid magazines, or from the Internet, on your classroom's walls or a table. Be sure to include a photo of **Michelle Obama**. You may want to include photos of media figures known for their service to others, such as **Angelina Jolie**, **Oprah Winfrey** and **Lance Armstrong**, in addition to those who may not yet be known for their work outside of the entertainment industry. Include names if you think your students will not easily recognize those pictured.
- When students arrive, have them walk around the room with a notebook and a pen or pencil, jotting down words or phrases that come to mind when they look at each picture. Remind them to stay quiet and make their own observations—this is not a collaborative activity. As an alternative, you may want to hang blank sheets of paper beside each photo for students to write their words and phrases anonymously. Encourage students to be both honest and respectful.
- When students are ready, have them share some of their reactions to the celebrity photos and list them on the board under each celebrity's name. Or, if you opted to have students write on the same sheet, read them

aloud. Next, ask: How many of these reactions had to do with physical appearance? What else do you notice about our words and phrases? What does each person seem to represent to us--just fame, "coolness" and physical attractiveness, or does the person bring to mind other things? You might use the photo of Angelina Jolie as an example to delve more into this idea. Ask students if, in addition to writing about how she looks, did anyone also write about her humanitarian work, her acting, or her role as mother to six children? Why or why not? Also, ask whether they see the celebrities who do service work in a different light from those who have not yet used their influence and resources to advance causes.

- Last, point to or hold up the picture of **Michelle Obama**. Ask students to share what they wrote about her, or read aloud their responses from the sheet. Ask:
 - Why do you think her photo was included in this activity?
 - How is she like the other people in the photos?
 - How is she different?
 - Do you think of her as a celebrity?
 - Do you know as much about her life as about these other celebrities?
 - What do you think people expect of Mrs. Obama now that she has become first lady?
- * ARTICLE QUESTIONS: As a class, read and discuss the article [Hints of Agenda and Tone for New First Lady](#), focusing on the following questions:
 - a. What causes will Michelle Obama promote as first lady?
 - b. What was her favorability rating as an incoming first lady? How does it compare to other first ladies' ratings?
 - c. What details from the article support the idea that Mrs. Obama has defined herself as "mom in chief"?
 - d. How might Mrs. Obama's background as a lawyer and former hospital executive, with a "disciplined, no-nonsense" approach, shape her plans and her role?
 - e. How will the current economic recession factor into the redecorating of the White House?

Extension Activities:

Students write essays that compare Michelle Obama to a literary or historical figure they have read about. The essays should include speculation and explanation about how Mrs. Obama might have dealt with the struggles that faced the character or historical figure.

Source: <http://www.nytimes.com/learning/index.html>

Hints of Agenda and Tone for New First Lady

By RACHEL L. SWARNS



WASHINGTON — She celebrated her 45th birthday in a vintage train car, amid balloons and crepe-paper streamers, and cheering crowds serenaded her by name.

She danced in front of the Lincoln Memorial to Stevie Wonder’s “Higher Ground” with her husband and daughters clapping by her side. She assembled care packages for soldiers in Iraq and Afghanistan, and, in this long, whirlwind weekend, marveled that she would soon be the public face of America’s first family.

On Inauguration Day, Michelle Obama will become the first African-American to assume the role of first lady, a woman with the power to influence the nation’s sense of identity, its fashion trends, its charitable causes and its perceptions of black women and their families. Already, the outlines of her style and public agenda have begun to emerge.

She has hired a politically seasoned team of advisers and an interior decorator committed to creating a family-friendly feel in her elegant new home. She has sketched out a vision of a White House brimming with children and ordinary Americans while suggesting she may delegate some traditional first lady duties to her staff: food tastings, china selection and the like.

She has decided to shape her public program with the help of a policy director who has raised concerns about instances of systemic employment bias against minorities and called for tougher enforcement of antidiscrimination laws, contentious issues in the workplace.

And she has highlighted the warm, informal tone that she hopes will characterize her time in the executive mansion by signing e-mail messages to supporters simply as “Michelle.

Mrs. Obama, a Harvard-educated lawyer and a former hospital executive, has made it clear that her two young daughters will be her biggest priority. The causes she has promised to promote — expanding volunteerism and supporting military families and working parents — fall squarely into the realm of platforms traditionally championed by first ladies. But the staff she has assembled is also clearly prepared to tackle a tougher issues-oriented program.

“Her experience will guide the kinds of things she does, and her personal experience is unique for a first lady,” said Paul Schmitz, a longtime friend. “She understands the needs of low-income communities. She understands the needs of women. She has balanced raising a family with a career.”

“She’ll think deeply about how to use her own bully pulpit,” said Mr. Schmitz, who heads Public Allies, a nonprofit leadership-training network for young adults. “And I think that’s the challenge. You are now the most prominent woman in America. What does that mean? What do you do?”

It is a difficult question, particularly since Mrs. Obama is still grappling with how life in the grand house at 1600 Pennsylvania Avenue will transform her family’s existence.

She has grown accustomed to being in the spotlight — with Secret Service agents accompanying her to private lunches with her girlfriends — and has consulted with Laura Bush and former first ladies Hillary Rodham Clinton, Nancy Reagan and Rosalynn Carter. But she has no experience with the day-to-day details of life in the White House.

President Bush and his wife were old hands at White House living because they had visited often when Mr. Bush’s father, George Bush, was running the country.

Mrs. Obama visited the private residence in the White House for the first time in November after the election. She grew up in a tiny apartment and marveled recently when she and her close friend Valerie Jarrett pored over photographs of the 15 bedrooms in the presidential mansion.

“You have to pinch yourself to think that that’s home,” said Ms. Jarrett, who is also one of President-elect Barack Obama’s closest advisers.

Craig Robinson, Mrs. Obama’s brother, described the Obamas’ new reality as “mind-boggling.”

“Every time I talk to her, I’m like, ‘What are you doing now?’ ” said Mr. Robinson, who has delighted in his sister’s accounts of her days in Washington before the move to the White House. “We are such novices at this. I’m just trying to find out, How many bathrooms are in there?”

(The answer is 34, according to William Seale, a historian who has written about the White House.)

Mrs. Obama has the highest favorability ratings of any incoming first lady since 1980, according to a New York Times/CBS News poll completed Thursday. Forty-six percent of those surveyed had a favorable opinion of her. Seven percent had an unfavorable view.

Gossip magazines, cable networks and major newspapers vie for tiny details about her and her daughters, Malia, 10, and Sasha, 7. The designer of Mrs. Obama's inaugural gown? (Sorry, no word yet.) Her favorite musician of all time? (Yes, Stevie Wonder.) Where in the White House is Malia likely to gather her thoughts when she has a tough school assignment? (At Lincoln's desk where he penned the Gettysburg Address.)

Mrs. Obama, who declined to be interviewed for this article, has reached out directly to supporters via e-mail and YouTube. And she has taken care in recent months to strike the right notes, emphasizing a preference for American fashion designers and announcing plans to use "affordable brands and products" as she redecorates the White House during this recession.

She knows that life under the microscope carries its perils.

After some rhetorical stumbles during the presidential campaign, Mrs. Obama was criticized by conservative columnists who accused her of being unpatriotic and bitter toward whites. Her approval ratings have soared since she refocused her image on her role as a wife and mother, but she still comes under periodic attack from conservative bloggers and others.

"There will be some people trying to pick holes," Mr. Robinson said. "We're used to that."

Mrs. Obama's diverse team, which includes former Congressional staff members and strategists from Democratic presidential campaigns, seems equally prepared to hone her message or deflect attack.

Jackie Norris, her chief of staff, served as a senior adviser in Iowa for the presidential campaigns of Mr. Obama and former Vice President Al Gore. Melissa Winter, her deputy chief of staff, spent 18 years on Capitol Hill.

Jocelyn Frye, her policy director, is general counsel for at the National Partnership for Women and Families in Washington, a nonprofit that advocates for workplace equity. Camille Johnston, her communications director, worked on Bill Clinton's presidential campaigns and served as press secretary for two cabinet officials. And her press secretary, Katie McCormick Lelyveld, worked for

Mrs. Clinton when she was first lady and was deputy communications director for Senator John Kerry's presidential campaign.

By contrast, Laura Bush's first chief of staff came straight from the Governor's Mansion in Texas and knew little about national or Washington politics, and her press aides have typically lacked national media experience, according to a former Bush administration official, who spoke on the condition of anonymity.

While many of Mrs. Obama's advisers do not have White House experience and may have initial difficulties navigating its bureaucracy, the official said the staff was far more politically seasoned than Mrs. Bush's team. "She's trying to get the best people, pulling in the cream of the crop," the official said of Mrs. Obama.

The new first lady will also have clear channels to the West Wing, counting close friends among the president-elect's advisers, including Ms. Jarrett and Susan Sher, who is associate counsel. They could be key allies should she choose to weigh in on policy issues she cares about. (She has said that she plans to leave the business of governing to her husband.)

Mrs. Obama has focused publicly in recent months on her self-described role of "mom in chief," settling her daughters at Sidwell Friends School and persuading her mother to move into the White House. She has made a point of hiring a chief of staff and a chef who regularly wrestle with the challenges faced by working mothers.

But the disciplined, no-nonsense executive also comes through.

While Mrs. Bush often hand-picked the silver, china and tablecloths for White House dinners, Mrs. Obama is more likely to focus on the broad themes of such events, delegating the details, Ms. Jarrett said. (Mr. Robinson said that while his sister typically cooked for her girls, she might be happy to delegate that for a while, too.)

She wants a home that is gracious, with 20th-century art amid the antiques, but comfortable for children. As a former community organizer, she also wants the White House to be more accessible to ordinary Americans, envisioning picnics that might include local children as well as state dinners.

"She wants it to be fun and to bring a sense of youth and style," said Ms. Sher, Mrs. Obama's friend.

Mrs. Obama also wants the White House to feel like home. She has spent her entire life in Chicago, aside from her years in college and law school. And when her closest friends prepared to hold a goodbye lunch in her honor, she asked only for keepsakes and personal mementos.

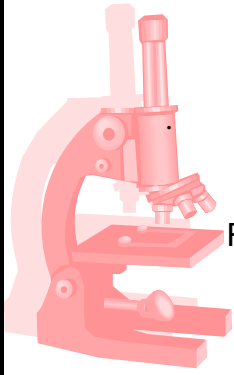
So her friends brought snapshots in small frames, photographs of Mrs. Obama with her family, colleagues and friends in Chicago.

Ms. Sher, who attended the lunch, said she did not know if Mrs. Obama had settled on a place for the photos in her new house. But she is not worried.

“She said there’s a lot of room,” Ms. Sher said.

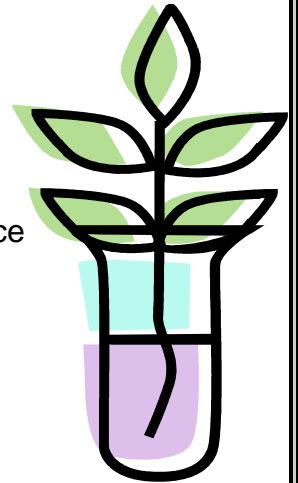
Source: <http://www.nytimes.com/learning/index.html>

Published in the National section on January 20, 2009.



Ladies Taking Over the Labs

Researching the Accomplishments of Women in the Fields of Science



Grades: Secondary

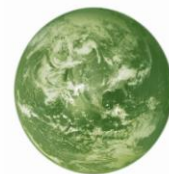
Objectives: Students will learn about the accomplishments of Dr. Lene Vestergaard Hau by reading and discussing "She Puts the Brakes on Light." Investigate the backgrounds, accomplishments, and impacts made by women scientists in various scientific fields.

Materials:

- paper
- pens/ pencils
- copies of "She Puts the Brakes on Light" (provided)
- reference materials on women scientists (science textbooks; encyclopedias; Internet access; books on various fields of science, scientists and discoveries)

Activities / Procedures:

- **WARM-UP/ DO-NOW:** In the first five minutes of class:
- Ask students to list, on a sheet of scrap paper, all of the descriptive words or phrases that they would use to describe a scientist.
- Then, ask students to share their descriptions. What ideas or words are repeated? How many students indicated gender in their description, either directly or indirectly? How many students referred to the scientist as male and how many as female? Why does one not typically think of women in the role of scientist?
- Read and discuss (article handout provided) "She Puts the Brakes on Light," focusing on the following questions:
 - a. What major accomplishment did Dr. Hau recently achieve?
 - b. How did Dr. Hau achieve this accomplishment?
 - c. Why do you think so few women still enter the sciences as



d. To what elements of Dr. Hau's background does she attribute her success as a female scientist?

e. What interests did Dr. Hau have when she was younger, and how did they further her interest in physics?

f. On what different projects has Dr. Hau worked, and what did she accomplish in each project?

g. How does the "candlestick" work, and what significance does this development have?

h. How does Dr. Hau feel about her profession?

i. Has Dr. Hau had to overcome obstacles as a woman in the field of physics? If so, what were they?

j. What impact has Dr. Hau's work had on the world of science and on the world at large?

Lene Vestergaard Hau: She Puts the Brakes on Light

By MALCOLM W. BROWNE



CAMBRIDGE, Mass. -- Her hair is boyishly cropped, her clothes are casual, and while riding her bike around Cape Cod she could pass as a college freshman.

But Dr. Lene Vestergaard Hau is no freshman. A teacher at Harvard University and an accomplished experimenter, she has gained a formidable reputation in a branch of science traditionally dominated by men: physics. Most of all, she is known as the scientist who slowed light down to a walk.

Dr. Lene (pronounced LEE-nuh) Hau, at 39, is rapidly reaching the top of her profession, her colleagues agree. On Feb. 18 the prestigious scientific journal *Nature* selected for its cover article a paper of which she was the leading author, and it caused a mild sensation.

In their paper, Dr. Hau, with Dr. Steve E. Harris of Stanford University and two of Dr. Hau's Harvard students, reported the results of their experiment in which a beam of laser light was slowed to the astonishingly low speed of 38 miles an hour. (By comparison, light in a vacuum travels about 186,000 miles per second.)

Dr. Hau's laboratory at the Rowland Institute for Science in Cambridge (where she conducts research with the help of her graduate and post-doctoral students from Harvard)) is one of a handful of organizations studying the interactions of lasers with a very peculiar kind of matter called a Bose-Einstein condensate.

It was by shining precisely tuned lasers on such a condensate, or cloud, of ultra-cold sodium atoms that Dr. Hau and her team reduced the speed of a light beam to a pace slower than her bicycle.

The achievement, noted by many newspapers, magazines and broadcasters, was a tour de force of pure physics, and it may also herald great practical applications.

Among them could be the development of optical switches that could enormously improve the performance of computers.

Dr. Hau presides over a half million dollars' worth of apparatus at the Rowland Institute, a research organization founded by the late Edwin H. Land, the inventor

of Polaroid instant photography, to support innovative research. Unmarried, Dr. Hau lives near the laboratory and spends most of her time either at the laboratory or pondering the problems her next experiment will present.

"I find that the shower is a very good place to think things out," she said, "but sometimes I forget what I'm doing. Once I even stepped into the shower with my clothes on."

Although increasing numbers of women have entered the sciences in recent years, their participation in physics remains very limited. Of several hundred scientists attending a typical physics meeting, only a half dozen or so are likely to be women. Dr. Hau is often asked how she came to be one of them.

"For one thing," she said, "I was lucky to be a Dane. Denmark has a long scientific tradition that included the great Niels Bohr, one of the founders of quantum theory.

In Denmark, physics is widely respected by laymen as well as scientists, and laymen contribute to physics. For instance, research in quantum mechanics has been supported in Denmark by the makers of Carlsberg beer since the 1920's. I myself was supported as a graduate student for one year by a Carlsberg scholarship."

Dr. Hau was born in Vejle, a small town not far from the University of Aarhus, on the east coast of Jutland.

"Neither of my parents had any background in science," she said. "My father was in the heating business and my mother worked in a store. But both of them believed in giving me the same advantages as my brother, which was very important to my education."

A prodigy who skipped 10th grade, she was immediately accepted at a "gymnasium," a European upper school roughly equivalent to the first two years of college in the United States.

From childhood Dr. Hau was fascinated by mathematics, especially geometry. "All my life I have needed to visualize things, even abstractions. Without a visualization in my head I'm lost, and geometry is very visual."

This approach to physics works, she said, even for visualizing mathematical abstractions like Hilbert spaces (named for David Hilbert, a German mathematician), which combine a variety of physical states (or "wave functions") into a single mathematical entity.

"When I first entered Aarhus University," Dr. Hau recalled, "I was bored by physics. They just taught us thermodynamics and classical mechanics, and that

bored me. But I loved mathematics. I would rather do mathematics than go to the movies in those days.

"But after a while I discovered quantum mechanics, and that got me interested in physics again, and I've been hooked ever since."

Quantum mechanics is a system of probabilistic rules governing the discontinuous jumps in behavior of very small particles of matter and energy. Transistors and many other electronic devices work according to these rules.

Dr. Hau was awarded her Ph.D. from the University of Aarhus in 1991 after completing a dissertation on the "channeling" of electrons along strings of atoms in a silicon crystal, as if the atomic strings were miniature wave guides, like the optical fibers used to guide light.

Along the way she acquired a working knowledge of English, German and French. French proved to be vital to her work during seven months of research she conducted at CERN, the European Laboratory for Particle Physics near Geneva.

"The scientific papers were written in English, but the meetings announcing the availability of various particle beams were all in French, and without French I would have been lost," Dr. Hau said.

"I loved it at CERN. The people were really passionate about their work. Even at 3 in the morning you would always see people in the labs."

In 1988, while completing her Ph.D. work, Dr. Hau made her first trip to the United States, looking for a post-doctoral job. By then she had received a one-year stipend from Carlsberg so she could accept a post-doctoral university appointment without pay. Among the scientists she met was Dr. Jene A. Golovchenko, a physicist at Harvard, who also worked at the Rowland Institute.

"I told Jene what I had been doing and also that I wanted a complete change in direction. I wanted to work on cooling atoms," she said. "He told me he didn't know anything about cooling atoms but said we could work together on it, so I was given a post-doctoral appointment. Later, the Rowland Institute gave me a staff job and my own laboratory."

Although she is a permanent United States resident, Dr. Hau has not applied for citizenship.

"I would like to be a citizen so I could vote," she said, "but I would have to give up Danish citizenship, and that would make me feel disloyal. Last week the Danish comedian and pianist Victor Borge performed in Boston for two straight hours --

and it was hilarious -- even though he is 90 years old. Now there's a Dane for you, one to make you feel proud."

Although much of Dr. Hau's work is done on a blackboard, she is also a "dirty hands" physicist who builds and adjusts much of her own complex apparatus.

In 1994, she and Dr. Golovchenko designed and built an ingenious atomic beam source called the "candlestick," which is now a part of Dr. Lau's light-slowing apparatus. The device incorporates a "wick" made of gold-plated stainless-steel cloth, which soaks up hot molten sodium metal and wicks the sodium up to a heater that vaporizes it. A jet of hot sodium atoms then shoots out of a pinhole into the cooling apparatus that chills them to a tiny fraction of a degree above absolute zero.

An atom at room temperature moves at high speed, but when it is bombarded from three directions by laser beams it loses energy and slows down: it cools off. In a complicated series of stages, Dr. Hau's apparatus uses lasers to cool the sodium atoms part way, and then evaporates the fastest (and therefore hottest) of them, saving the coolest in the trap. At the end of this cooling operation (which takes 38 seconds), the cloud of atoms in the trap has been reduced to only 50 one-billionths of a degree above absolute zero, a temperature far colder than any in nature, even in the depths of space.

Because of the Uncertainty Principle -- one of the fundamental rules of quantum mechanics -- the more precisely the momentum (or velocity) of a particle is known, the less precisely is it possible to measure its position, and vice versa. At exactly zero degrees (which in practice could never be reached), a particle would have zero momentum, a precise value. This would mean that the particle's position would be highly uncertain; it might be found anywhere within a large volume of possible places.

The volume occupied by each ultra-cold sodium atom in Dr. Hau's trap expands enormously, so much so that atoms in the trap are forced to overlap and merge into what physicists call a Bose-Einstein condensate (named for the theorists Satyendra Nath Bose and Albert Einstein), in which the atoms' quantum wave functions are combined.

Once the condensate is created, a "coupling" laser tuned to resonate with the trapped mass of atoms is beamed into the trap chamber so that the atoms and photons of light become "entangled" with each other, behaving as if they were a single entity. A pulsed laser probe is then shot into the "laser dressed" condensate from a different direction, and some of its light passes through, but at a speed 20 million times as slow as the speed of light in a vacuum.

A table covered with a labyrinth of little mirrors guides a network of beams requiring perfect adjustment, and Dr. Hau and her team work long and tedious

hours, sometimes around the clock. Their eyes become strained from exposure to the glaring yellow laser spots reflected from the apparatus.

"Of course, we have to eat while we work, and we like pepperoni pizza, but we have to be careful to keep the optical system clean," she said. "Each cooling cycle for the sodium atoms takes 38 seconds, and that gives us just enough time to take a bite of pizza, change hands and flip up one of the mirrors in the optical system to prepare for the next cooling cycle. It takes some practice."

Dr. Hau is considering an experiment to measure localized wave functions in the cooled atom trap, allowing her to explore the structure of the condensate.

"Some people think it might be dangerous, that the trap might explode. But the most worthwhile physics is often a bit dangerous," she said.

"When you're looking at the computer monitor and you suddenly see what you had hoped you would find," she added, "it's the greatest feeling in the world."

Source: <http://www.nytimes.com/learning/index.html>



To Infinity and Beyond

Celebrating the Accomplishments of Notable American Women

Grades: Secondary

Objective: Students learn about NASA's next flight commander, Colonel Eileen M. Collins. They then learn about other extraordinary American women in various fields and create biographies celebrating their achievements.

Materials:

- pens/pencils
- paper
- classroom board
- copies of the article (provided) "To Revive Shuttle, NASA Calls on Cool Leader," found online at

Vocabulary:

- glitch, altimeter, maneuver, complex, flawlessly, allotted, virtuoso, unassuming, invariably, conveys, posture, vetted, competence, decisiveness, atmospheric, re-entry, humble

Activities:

- Ask students to respond to the following prompt, written on the board prior to class: ***"Courage is the price that life exacts for granting peace with yourself."*** These are the words of Amelia Earhart, one of the world's most celebrated aviators, an American woman who broke records and charted new waters.
- What do her words mean?
- Who are some other American women who have made a mark in their fields?"
- After a few minutes ask students to share their responses.
- Create a list on the board of the women whom they mention, to be used later in the class period.
- You may wish to categorize the women by field, such as science, mathematics, politics, sports, music, literature, etc.
- As a class, read and discuss the article "To Revive Shuttle, NASA Calls on a Cool Leader"

Questions for article

"To Revive Shuttle, NASA Calls on a Cool Leader"

- a. What is a "sim," and what is the role of one during astronaut training?
- b. When did Col. Eileen M. Collins become the first female shuttle pilot?
- c. When did Colonel Collins become the first female shuttle commander?
- d. When and where did the Columbia shuttle disaster occur?
- e. How many years has NASA postponed their next flight since the Columbia shuttle disaster?
- f. Where is the destination for the upcoming flight?
- g. What is the first-time maneuver that Colonel Collins will lead up in space?
- h. What military branch did Colonel Collins retire from in January, 2005?
- i. When did Colonel Collins become an astronaut?
- j. How many hours has Colonel Collins logged in training simulations?
- k. On how many different aircrafts has Colonel Collins trained during simulations?
- l. How many hours has Colonel Collins spent in space so far?
- m. What situation did James D. Wetherbee recall regarding Colonel Collins' performance during the 1995 mission?
- n. What was Colonel Collins nickname when she was in the Air Force, and why?
- o. What position did Colonel Collins hold when Kevin Mellett was her deputy?
- p. From what has the public posture of astronauts shifted away over the years, according to Dr. John M. Logsdon?
- q. What qualities does Colonel Collins possess, according to Dr. Logsdon?
- r. Where did Colonel Collins spend her childhood?
- s. When she was growing up, what job did Colonel Collins take to earn money for flying lessons?
- t. What were few girls encouraged to do during her adolescence?
- u. Where did Colonel Collins receive her education?
- v. How long has Colonel Collins been married, and how many children does she have?
- w. What does a leader have to do, according to Colonel Collins?
- x. How has NASA taken measures to reduce the risk of another Columbia disaster?
- y. What is Colonel Collins' response to the "work in progress" patch kit being developed by NASA?
- z. How have Colonel Collins and NASA prepared and developed for the return-to-flight effort?

Reflecting on Women's History activity:

- Reflect on the **2009 Women's History month honorees**, as a class, review the list and allow each student to select one woman as the focus of his or her research.
- Then, using all available resources, students identify the answers to the following questions (copied onto a handout for easier student access):

Personal Life:

What was this woman's name at birth? Where and when was she born?

- What was her life like as a child and young adult? (Describe important aspects of family life, education, pastimes, etc.)
- What aspects of her early life may have led her to the field of study in which she became successful and well-known?
- What was her personal life like as an adult?
- Did she marry?
- Did she have children?
- What type of person was she?
- If this person is no longer alive, when and where did she die?

Achievements and Impact on life:

- At what point did she decide to go into her chosen field? How did she prepare for this field?
- What contributions did she make to this field and to larger society?
- Why was this work important?
- Detail some of her most significant work and its impact.
- In what way or ways did her work and achievements impact American history? Provide specific examples.

Personal reflections:

- What do you think everyone should know about this notable woman?
- What do you think was her most impressive achievement, and why?
- How has this woman inspired you? In what ways would you like to be her?

Further Questions for Discussion:

- What is the role of a shuttle pilot? What is the role of a shuttle commander?
- How does an individual become an astronaut?
- What is the role of the space program?
- What do you know about NASA's creation?
- Why do you think so much of the government's money goes to the space program?
- What has been learned through space exploration that has helped us here on Earth?

- Who are some people who broke barriers for their race, religion or other status?

Extension Activities:

1. Create an illustrated timeline of the NASA program. Why was it created, and by whom? What are some of the historic space missions and astronauts that have made the program successful, and what did they accomplish? What have been some of the program's failures?
2. Write a news article highlighting the new and improved advances and safety measures that NASA has made since the Columbia disaster.
3. Write a press release notifying the public of the next NASA space mission, highlighting Colonel Eileen M. Collins as commander.
4. Create a series of trading cards (similar to baseball cards) to introduce kids your age to the women of NASA. Use the information on the Women in NASA Web site for information and pictures of the women (<http://quest.arc.nasa.gov/women/WON.html>).

To Revive Shuttle, NASA Calls on a Cool Leader

By JOHN SCHWARTZ



HOUSTON - There was a glitch in the sim. During a simulated landing on April 6, the altimeter reading had the space shuttle cruising on approach to the runway at 4,000 feet below sea level.

Sims are serious business: they are carefully designed tests that throw realistic problems at crews and build the reflexes that could save lives. The faulty altimeter reading was an error that could have ruined the exercise. Without any sign of frustration or irritation, but with a large dose of astronaut-issue composure, Col. Eileen M. Collins, the shuttle's commander, said simply, "That was a brand-new one," and completed the landing sequence.

There is a first time for everything, and nobody knows that better than Colonel Collins. Now 48, she became the first female shuttle pilot in 1995, and in 1999 she was the first female shuttle commander. On that mission she flew the Columbia, the shuttle that broke up over Texas in February 2003, killing all seven astronauts aboard.

The next shuttle mission was to have been that March, with Colonel Collins again in the commander's seat. Next month, she is scheduled to lead the first flight after the Columbia disaster, a mission that has been postponed for two years as NASA has struggled to understand what caused the accident and worked to correct problems.

It is expected to be a risky and demanding flight that will ferry supplies to the International Space Station and test possible technologies for repairing damage to the delicate skin of the shuttle. Colonel Collins will also guide the shuttle through a maneuver that has never before been tried: a somersault close to the space station that will present the craft's underside to the station crew for photographic inspection.

Hanging over the mission is the memory of the Columbia astronauts: Colonel Collins's friends, in the small world of space exploration, and more so because her office here at the Johnson Space Center was right next to the Columbia crew's.

Colonel Collins, who retired from the Air Force in January, has been an astronaut since 1991. She has logged more than 6,000 hours in 30 types of aircraft and has spent more than 500 hours in space.

"She's a great astronaut," said James D. Wetherbee, who was commander of the 1995 mission. When she had to perform a complex set of tasks toward the end of the mission, "she handled it flawlessly," lining up the shuttle to grab a satellite with just two bursts of the shuttle's jets when NASA had allotted time and resources for four - a virtuoso performance, he recalled.

Like many astronauts, she is unassuming, even cool. At public events, when the spotlight is not on her, her face tends to take on a distant expression, as if she is working through a mental punch list. Those who work with Colonel Collins invariably use the word "nice" - but they say she brings far more to her role, providing support in ways that ease the long hours and tension of training.

"She takes care of us," said Soichi Noguchi, a Japanese astronaut who will fly on the mission. Long before she had children, her Air Force nickname was Mom.

The nickname conveys a deeper truth about her qualities as a leader, said Kevin Mellett, who was Colonel Collins's deputy when she was chief of the safety branch in NASA's astronaut office. Throughout the inevitable frustrations of training, he said, "I don't think I've ever heard a negative comment for anybody come out of her mouth."

Around the space center, she is a superstar, Mr. Mellett said, unable to get through a working lunch without being interrupted by autograph seekers. As people came to their table in a steady stream one day at a Fuddrucker's restaurant near the space center, "she kept signing autographs, cheerful and appreciative," he said, adding, "She knows that she is representing NASA, and she always plays the part perfectly."

Over the years, the public posture of astronauts has shifted away from the masculine bravado of the "Right Stuff" era. Dr. John M. Logsdon, the director of the Space Policy Institute at George Washington University, said that these days, astronauts tend to show charm, not swagger.

"You are going to be spending most of your time representing NASA and less of your time preparing to fly," Dr. Logsdon said. "Almost all of the people who are career astronauts have been carefully vetted so that their public persona is at

least pleasing."

He added, however, that anyone who thinks of Colonel Collins as merely nice is missing the point.

"People who are only nice don't get to be F-16 pilots," he said. "There is a backbone, a competitiveness and a competence there in addition to a pleasant personality."

But, Dr. Logsdon added, "Eileen really is nice."

As a girl in Elmira, N.Y., Colonel Collins said, she dreamed of flight. With her family struggling to make ends meet, she waited tables at a pizzeria to earn money for flying lessons, and she took on the hardest classes, even though in those days few girls were encouraged to go into science and engineering.

A close friend from her high school days, Kathleen Booth, said Colonel Collins was always fascinated by planes.

"One time we were walking and a jet was passing overhead, and she looked up and said, 'I wonder why there's a stream behind some jets and not others,' " said Ms. Booth, now a school nurse in Elmira. "She was always trying to figure things out."

After two years at Corning Community College, she transferred to Syracuse University, and after graduating, she joined the Air Force.

There, she met a fellow pilot, Pat Youngs. "I heard she was attractive, and she was," he recalled. Not only did they share many values, he said, but "she shot baskets with me in an outdoor court."

They have been married for 18 years; today, he is a pilot with Delta Air Lines. They have two children, a girl, 9, and a boy, 4.

In an interview, Colonel Collins said, "I've learned more about leadership by watching mistakes than watching people who were perfect." She values decisiveness and tries to provide it herself.

"The leader's got to listen, listen, listen," she said, softly striking her fist against the table with each "listen." But in the end, she went on, a good leader tells the crew: "My job is to make the decision, and I know you're not all happy. But it's time to move forward."

The morning of the Columbia disaster, a Saturday, Colonel Collins was watching NASA's television channel with her son. She was horrified to learn that

communication had been lost with the shuttle crew. The disaster unfolded from there.

She told a reporter at the time that she had found some toys to keep her son occupied; thankfully, she said, he was too young to realize what was going on.

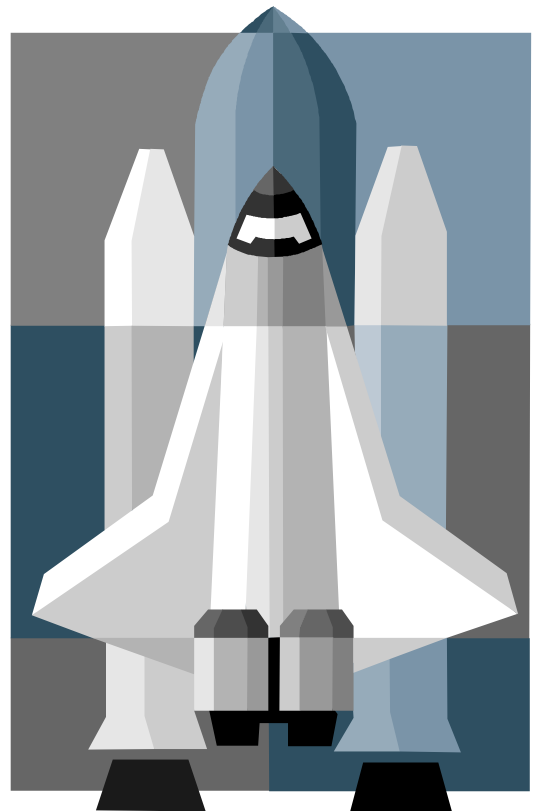
Mr. Youngs said that he and his wife were "maybe a little bit more aware of things that can happen" in flight. "It's just what we do," he said.

NASA says it has taken measures to reduce the risk of another Columbia accident by greatly reducing the amount of foam that can fall off of the shuttle's enormous external fuel tank. That should reduce the risk of damage to the insulating tile and panels that deflect the fierce heat of atmospheric re-entry.

NASA is also developing a patch kit for the shuttle's panel and tiles. Colonel Collins said that the kit was a "work in progress" and that she would rather not have to come home on the untested technique. Still, she and her crew say that if damage does appear, they will work with ground control to come up with the best decision.

"The return-to-flight effort has not been easy," she told reporters at the Johnson Space Center. "But because of it, because of the work we've done, we are smarter, we are stronger and we are more humble."

And, she added, "We're safer."



Women Taking the lead to save our *Planet*

Articles:

Women that are taking the Lead
to Save our Planet



Women Taking the lead to save our *Planet*

christine hart feature

green from the ground up

Environmental awareness, global warming, and a myriad of health problems are all beginning to motivate Canadians towards sustainable development; construction projects aptly referred to as 'green buildings.'

Starting with design, surveying, and excavation, sustainable development begins before workers even break ground. Green buildings often combine rapidly-renewable wood, low-fume and toxin-free paint, pipes, and other materials.

Energy saving windows, insulation, and appliances also help. Plants can be used strategically to increase oxygen levels while waste water can be recycled to maintain the plants. Overall, green buildings use resources efficiently, reduce waste, and provide superior living conditions.

In Canada, we are fast becoming a green building nation home to 221 projects registered in 2006 for Leadership in Energy and Environmental Design (LEED) certification, up from just 5 in 2001 and none in 2000. While this movement grows, women are joining the ranks.

"In my architecture class, women made up about 15 per cent of the students. There is a significantly larger proportion of women in sustainable development," says Helen Goodlad, Executive Director of Light House Sustainable Building Centre in Vancouver.

"There is a different mindset involved in developing sustainable buildings. These are opportunities conventional industry doesn't offer. In a recent RFP we sent out, six proposals came in—all from women."

Goodlad's own architectural experience includes social housing and green building projects in the UK and Canada. Now she helps educate developers, designers, contractors, and the public on how sustainable development can change the way we live.

Kathy Wardle, Associate and Director of Research at the architectural firm of Busby, Perkins and Will says, "environmental and sustainability issues is an area that has attracted a lot of women. As new positions addressing green building research and LEED certification are created, these are jobs more women tend to hold."

Wardle says that the ratio of women to men in sustainable development is around 50 / 50. While there has been a shift in mainstream architecture and engineering, these fields are still male-dominated.

Based in Vancouver, Wardle oversaw the LEED Gold application of the now certified City of White Rock Operations Building. She helped the city's operations staff move from an old wooden frame building and a series of trailers to a sleek, modern facility which received praise for new green building technology.

"I've been fortunate to work on diverse projects. I'm currently co-chair of a sustainable design committee within our larger international firm working across the US and Canada to make sure we 'walk-the-walk' in what we do."

Aneta Zimnicki, engineer and in-house Environmental Specialist at Omron Dualtec Automotive Electronics Inc. (ODI) got to work on a green building in Oakville when the movement was just blossoming.

"I was very excited to take on the challenge to have our new facility become one of the first LEED-Canada certified green buildings. ODI subscribes to a corporate social responsibility policy that includes declarations in ethics, citizenship, and environmental responsibility."

Zimnicki's project used dual-flush toilets, occupancy sensors to eliminate the need for light switches, daylighting strategies, and user-friendly thermostats. To improve indoor air quality, carpeting, furniture and

cleaning supplies were all selected for their low volatile organic compound content.

"Our building envelope is so well insulated that we were able to scale down on the number of HVAC units. We opted for planting drought-tolerant native grass species, and consequently we were able to eliminate the installation of a permanent irrigation system."

Like many women in this field, Zimnicki is passionate about her work and the greater implications for our planet's future.

"Designing and constructing green buildings...answers the problem of energy consumption, greenhouse gas emissions, and global warming. It recognizes and addresses the 'sick building syndrome.' It holistically approaches environmental sustainability and is able to protect ecosystems that were previously destroyed by conventional design and construction practices."

Fortunately, we are in a position to work at correcting past missteps in design and development as more professionals learn how to craft greener projects.

"The number of consultants, architects, and contractors experienced in LEED is now rapidly increasing, and this is making the decision for building owners to build green much easier," says Zimnicki.

Pursuing LEED certification has become one of the most standardized and recognized systems of implementing green building practices around the world. In Canada, LEED certification is governed by the Canada Green Building Council. As of September 29, 2006 the CaGBC listed 52 developments across Canada as having achieved LEED certification.

LEED-certified buildings achieve varying levels of recognition—platinum, gold, silver, and certified—by adhering to up to 72



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points related to design and materials. To be awarded LEED certification at any level, a project must submit to detailed technical review after completion.

As green building technology and certification are both relatively new, some organizations and developers are concerned that costs may outweigh benefits. Education and understanding is needed to help offset anxiety over cost increases.

"It's not necessarily that green buildings cost more, they cost differently," said Goodlad. "Developers need to change how they budget. When you increase costs for windows and insulation, you reduce costs on heating and ventilation. And like any product, better quality costs more."

"Our efforts to educate developers and owners are focused on private and single family projects. We avoid terms like 'green' and 'sustainability' as it can be hard to relate them to a practical solution. It's all about you. Your health, comfort, and return on investment."

Despite rises in energy costs, Canada is still a resource-rich country, with relatively affordable energy prices. Although many Canadians support environmentally friendly ideas, spending more on construction and materials can be a hard sell.

"Green buildings are changing development at different rates in different sectors. In institutional development, sustainability is accepted

and desirable—even mainstream. They own and operate their buildings over long periods of time, so they see the benefits."

"We have a culture of abundance in Canada and relatively cheap energy costs. We're particularly blessed here in BC. It's tough to point out scarcity of resources, although it is starting to show up in materials," says Goodlad.

The benefits of winning that argument are well worth it according to Wardle. "Buildings actually do have a huge impact on our environment. 30 per cent of Canada's greenhouse gases come from buildings. We all live in built structures with materials that tend to off-gas. We can all benefit from a healthier living environment."

Edmonton architect and sustainable design expert Vivian Manasc says that changing the way institutions build is key.

"Commercial development represents only a small part of the built environment. The significant question is related to public sector developers. School boards, hospital boards, municipalities, provincial, federal, and NGO organizations; these groups, taken together, build far more than the private sector, in terms of non-residential construction in Canada, year over year."

Designed to be environmentally friendly as well as cleaner and safer for people, green buildings have become more popular with health and eco-

conscious consumers.

Manasc says that developers are receptive to green buildings to keep up with this booming trend. "When the market demands it, they come on board. The green building projects are being initiated, in part by public policy and in part by corporate initiatives."

Also a professor at the University of Calgary, Manasc says that architecture was always her first interest, but her work with green buildings stems from a keen interest in our environment, community engagement, and integrated design

"Our projects challenge, on a day-to-day basis, the conventional standards and practices of building design in North America, from an aesthetic, technical, environmental, and social perspective."

Compared to other countries, Canada ranks around the middle in terms of implementing sustainable development practices. Manasc says that although Canada is well ahead of the pack, we still have a lot of work to do.

"We look to Europe for leadership. The Carbon Trust in the UK and the Passive House group in Austria all set excellent examples," says Goodlad.

Here in Canada, there is no slowdown in sight for earth-friendly expansion and growing numbers of dedicated women are helping lead the way. ☕

LEED-ing the way to going green

February 11, 2009 by [Amelia Kreminski](#)



Walking into the office only to find the traditional ficus tree replaced by an entire field of grass growing out of the roof overhead may come as a surprise to many entrepreneurs. The sight of verdant dreamlands atop urban skyscrapers is becoming more and more common, however, as increasing numbers of companies trade in their tired shrubberies for more impressive displays of foliage and ecological awareness.

Installing a “living roof,” or a roof planted with a lush field of vegetation, is just one way a modern business can show their environmental friendliness through “green” building practices. As an entrepreneur, it can often be overwhelming to attempt a green makeover, and as a consumer, it can often be overwhelming to find the number of companies now making claims to environmental stewardship. Fortunately the Leadership in Energy and Environmental Design Green Building Rating can help by providing the nationally respected, most rigorous standard for sustainable buildings.

LEED: A NEW STANDARD FOR NEW BUILDING PRACTICES

LEED was developed in 1998 by the U.S. Green Building Council to create a definition for the purported “green” buildings sprouting up everywhere. They hope to encourage and promote green building practices and environmental awareness in the construction and business market. LEED grants certification at four different levels, depending on how well the building they inspect stands up to tough sustainability standards in the fields of management, function and architectural design.

Committees consisting of members of the USGBC decide collectively on the requirements for the certified silver, gold and platinum levels of certification. The teams are made up of a diverse mix of experts from every arena of the building and construction industry. They scrutinize environmental awareness through five facets of a company’s operation, including sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. The guidelines are flexible, though, and allow a company to earn extra points through creativity and innovation during the building process.

LEEDING THE WAY TO BETTER BUSINESS

The National Resource Defense Council states on their Web site that “achieving LEED certification is the best way for you to demonstrate that your building project is truly ‘green.’” One might ask what edge a green business has in the market, and the answer lies in a cornucopia of competitive advantages that green buildings offer.

According to an article on the LEED Web site, currently LEED-certified buildings sell for \$171 more per square foot than their uncertified counterparts. This signifies just how valuable having a sustainable business is in today’s

environmentally conscious business market. LEED understands that many entrepreneurs are intimidated by the often higher prices of green building materials, and they design their rating system to best promote profitability in a better working environment.

By obtaining LEED certification, a business immediately increases their real estate value. The economic benefits, however, don't stop there; LEED buildings conserve energy and water, cutting down on the cost of maintaining the office building. LEED certification can even earn a business extra cash in the form of government incentives and tax rebates. Reduction of waste and green-house emissions demonstrates publicly a company's social responsibility, something that consumers are seeking more and more as climate change becomes a serious concern.

HOW TO GROW A GREEN BUSINESS

The first step in giving a business a green makeover is to register it at www.usgbc.org, the Green Building Council's Web site. A business owner must then decide which certification goal she is striving for and what type of building process she is working with. Growing a green business means specializing the tools of green building practices to fit many unique environments, and LEED understands that different businesses blossom in different ways. They offer certification in eight construction areas; these include specific guidelines for new construction and major renovations, existing buildings: operations and maintenance, commercial interiors and core and shell building strategies. During the renovation process, business owners may find it helpful to hire Accredited Professionals or people that have passed the AP LEED exam, and have an extensive knowledge of green building practices. They can help with aspects of the renovation process like making "life cycle assessments" of green purchases; these calculations clearly show that the initial cost of green building products is more than paid for in the product's life cycle. APs come from all areas of building and real estate, from architects to engineers to interior designers. A list of APs can be found at www.usgbc.org.

The final step is documenting the building's improved performance and sustainable procedures and submitting the application online. LEED will then review the application and bestow the LEED certification, granting entrepreneurs admittance to a competitive niche in the modern business market. The LEED sticker on a company's door says many things; it tells investors about their economic stability, challenges competitors to meet their environmental edge and informs consumers that they continue to LEED the way in creating a healthier and brighter tomorrow.



In 'Geek Chic' and Obama, New Hope for Lifting Women in Science

By [NATALIE ANGIER](#)

With the [inauguration](#) of an administration avowedly committed to Science as the grand elixir for the nation's economic, environmental and psycho-reputational woes, a number of scientists say that now is the time to tackle a chronic conundrum of their beloved enterprise: how to attract more women into the fold, and keep them once they are there.

Researchers who have long promoted the cause of women in science view the incoming administration with a mix of optimism and we'll-see-ism. On the one hand, they said, the new president's apparent enthusiasm for science, and the concomitant rise of "geek chic" and "smart is the new cool" memes, can only redound to the benefit of all scientists, particularly if the enthusiasm is followed by a bolus of new research funds. On the other hand, they said, how about appointing a woman to the president's personal Poindexter club, the President's Council of Advisers on Science and Technology? The designated leaders so far include superstars like Harold Varmus, a Nobel laureate, and Eric Lander, genome meister.

The Rosalind Franklin Society, a group devoted to "recognizing the work of prominent women scientists," has suggested possible co-chairwomen for the panel. Its candidates include Shirley Ann Jackson, a nuclear physicist and president of [Rensselaer Polytechnic Institute](#), and Shirley Tilghman, a molecular biologist and president of [Princeton University](#). Others have proposed Jacqueline Barton, a chemist and MacArthur fellow at the [California Institute of Technology](#). Or, given the increasing importance of brain research, how about a prominent female neuroscientist like Nancy Kanwisher of the [Massachusetts Institute of Technology](#) or Carla Shatz of [Stanford University](#)?

"People say, oh, we shouldn't have quotas, but diversity is a form of excellence, and there are plenty of outstanding women out there," Jo Handelsman, president of the Franklin society and a microbiologist at the [University of Wisconsin](#), said in

an interview. “You don’t have to lower your standards in the slightest — you just have to pay attention.”

Some would like to see novel approaches to treating systemic problems that often work against women’s scientific ambitions. Mary Ann Mason and Marc Goulden of the University of California, Berkeley, have gathered extensive data showing stark male-female differences in the family structure and personal lives of academic researchers at the top tiers of the profession.

Surveying outcomes for 160,000 Ph.D. recipients across the United States, the researchers determined that 70 percent of male tenured professors were married with children, compared with only 44 percent of their tenured female colleagues. Twelve years or more after receiving their doctorates, tenured women were more than twice as likely as tenured men to be single and significantly more likely to be divorced. And lest all of this look like “personal choice,” when the researchers asked 8,700 faculty members in the University of California system about family and work issues, nearly 40 percent of the women agreed with the statement, “I had fewer children than I wanted,” compared with less than 20 percent of the men. The take-home message, Dr. Mason said in a telephone interview, is, “Men can have it all, but women can’t.”

From a purely Darwinian point of view, expecting a young woman to sacrifice her reproductive fitness for the sake of career advancement is simply too much, and yet the structure of academic research, in which one must spend one’s 20s and early 30s as a poorly compensated and minimally empowered graduate student and postdoctoral fellow, and the remainder of one’s 30s and into the low 40s working madly to earn tenure, can demand exactly that.

Nor do all young men in science accept the notion that their lab bench must double as a sleeping cot while their wives take care of the kids. In a new survey of 19,000 doctoral students at the University of California, Dr. Mason and her colleagues found that while two-thirds of the respondents either had or planned to have children, 84 percent of the women and 74 percent of the men expressed worry about the family-unfriendliness of their intended profession, and many had changed their plans accordingly. While 40 percent of the male science graduate students and 31 percent of the women said they had begun their Ph.D. programs intent on pursuing an academic career — still considered the premier path to science glory — a year or more into their studies, only 28 percent of the men and 20 percent of the women still hoped to become research scientists at a university.

Dr. Mason and other legal experts suggest that President Obama might be able to change things significantly for young women in science — and young men — by signing an executive order that would provide added family leave and parental benefits to the recipients of federal grants, a huge pool of people that includes many research scientists.

Whatever the impediments, women have made great strides in most areas of science. According to Joan Burrelli of the [National Science Foundation](#), whereas 50 years ago women earned a piddling 8 percent of the science and engineering doctorates, by 2006 they claimed a 40 percent share. In 1973, only 6 percent of the Ph.D. scientists employed full time in academia, business or elsewhere were women; by 2006 the number had risen to 27 percent. Over that same time frame, women's share of full professorships in the sciences quadrupled, to about 20 percent. Yet the stats vary sharply from field to field: 26 percent of full professors in the life sciences are women, but in physics, 6 percent.

For many female physicists, the mystery of women's slow progress through their ranks is nearly as baffling as the research mysteries they confront in the lab. Of course, only 6 percent of physics professors are female; only 4 to 6 percent of the matter in the universe is visible. "Sound familiar?" Evalyn Gates, the assistant director of the Kavli Institute for Cosmological Physics at the [University of Chicago](#), said wryly.

She has urged her colleagues to attack the problem of low female numbers as they would any scientific problem, by systematically gathering data, checking their detectors, factoring out background noise. Yes, girls and women leak out of the pipeline in comparatively greater numbers than males for every scientific discipline, she said, but they fall out of physics first and fastest. Why should it be, she said, that almost half of high school students in Advanced Placement physics classes are girls, but women earn only a fifth of bachelor's degrees in physics? What turns girls away from physics so early?

Some have suggested that girls just can't handle the advanced math of physics. Yet in an analysis of high school students' performance on standardized math tests, published last summer in the journal *Science*, Janet Hyde and her colleagues found no gender differences in average performance, and even at the uppermost tails of achievement the discrepancies were minor and inconsistent: among whites who scored in the top 1 percent, there were two boys for every girl, whereas among Asian top scorers, there was one full girl for every nine-tenths of

a boy. Besides, said Dr. Gates, female students earn half of the bachelor's degrees in another math-heavy discipline called — mathematics.

Others have insisted that women just don't like physics, perhaps because it seems cold and abstract, concerned with things rather than the flesh-and-blood focus of female-friendly fields like biology. But such reasoning, Dr. Gates said, cannot account for the fact that women earn half of the undergraduate degrees in chemistry, which is not quite plush toy material. "Something different is going on with physics, and we don't know what it is yet," she said. The culture? Bubble-headed television shows like "The Big Bang Theory," with its four nerdy male physics prodigies and the fetching blond girl next door?

The difficulties are not confined to America. Surveying some 1,350 female physicists in 70 countries, Rachel Ivie and Stacy Guo of the American Institute of Physics found that, worse than family balance issues or lack of day care options, was the problem of public perception. The women were passionate about their work. They didn't choose physics; physics chose them. Yet 80 percent agreed that attitudes about women in physics needed a serious overhaul.

As long as we're making geek chic, let's lose the Einstein 'do and moustache.

Source: http://www.nytimes.com/2009/01/20/science/20angier.html?_r=1&pagewanted=print





Girls Make History by Sweeping Top Honors at a Science Contest



By AMANDA MILLNER-FAIRBANKS



Isha Himani Jain, a senior from Bethlehem, Pa., after the announcement that she placed first in the individual category

Girls won top honors for the first time in the Siemens Competition in Math, Science and Technology, one of the nation's most coveted student science awards, which were announced yesterday at New York University.

Janelle Schlossberger and Amanda Marinoff, both 17 and seniors at Plainview-Old Bethpage John F. Kennedy High School on Long Island, split the first prize — a \$100,000 scholarship — in the team category for creating a molecule that helps block the reproduction of drug-resistant tuberculosis bacteria.

Isha Himani Jain, 16, a senior at Freedom High School in Bethlehem, Pa., placed first in the individual category for her studies of bone growth in zebra fish, whose tail fins grow in spurts, similar to the way children's bones do. She will get a \$100,000 scholarship.

The three girls' victories is "wonderful news, but I can't honestly say it's shocking," said Nancy Hopkins, a biologist at the Massachusetts Institute of Technology.

Dr. Hopkins helped start a national discussion about girls and science two years ago when she walked out of a talk by Harvard University's president, Lawrence

H. Summers, after he suggested that innate differences between men and women might be one reason that fewer women than men succeed in math and science careers. Dr. Summers apologized during the ensuing furor; he announced his resignation as Harvard's president 13 months later.

"Why do people think girls can't do science?" Dr. Hopkins said yesterday. "Where did this crazy idea ever come from?"

James Whaley, president of the Siemens Foundation, which oversees the competition for Siemens AG, a global electronics and engineering company, said the competition results send a great message to young women.

Alicia Darnell, 17, a senior at Pelham Memorial High School in Pelham, N.Y., won second place and a \$50,000 scholarship in the individual category for research that identified genetic defects that could play a role in the development of Lou Gehrig's disease.

The Siemens competition was first held in 1998 and is distinct from the Westinghouse Science Talent Search, which was founded in 1941 and is now known as the Intel Science Talent Search. Many high school students enter both.

This year, more than 1,600 students nationwide entered the Siemens competition. After several rounds of judging, 20 finalists were chosen to present their projects at N.Y.U. and to vie for scholarships ranging from \$10,000 to \$100,000. Eleven of the finalists were girls. It was the first year that girls outnumbered boys in the final round. Most of the finalists attend public school.

On Sunday, the students gave 12-minute presentations of their projects, filled with explanations about Herceptin resistance (when breast cancer patients with HER2-positive tumors do not respond to the drug Herceptin) and FtsZ inhibitors (experiments on a specific protein that could lead to a new treatment for drug-resistant tuberculosis).

One of the most popular was by three home-schooled girls from Pennsylvania and New Jersey — Caroline Lang, 16; Rebecca Ehrhardt, 15; and Naomi Collipp, 16 — who used a Power Point presentation to demonstrate their "Burgercam" monitoring system. It is designed to determine when E. coli bacteria in hamburgers have been safely eliminated by measuring the shrinkage of each patty when fully cooked.

Several hundreds of hamburgers later, the girls took home fifth place and \$20,000 in scholarship money.

Caroline, Rebecca and Naomi, called "the Hamburger Girls," said they had been friends since they were toddlers and had stayed in touch through a group for home-schooled children.

“They were concerned it wasn’t sophisticated enough, but they wanted to try,” said Rebecca’s mother, Alicia Butcher Ehrhardt, a plasma physicist.

Three-quarters of the finalists have a parent who is a scientist. The parents of Alicia Darnell, who won second place, are medical researchers at Rockefeller University, and her maternal grandparents were scientists, too. Isha Himani Jain, who took home the top individual prize, published her first research paper with her father, a professor at Lehigh University, when she was 10 or 11; her mother is a doctor.

The Siemens Foundation arranged some sightseeing for the finalists — an outing to “The Lion King,” bowling at Chelsea Piers and a group picture on the JumboTron in Times Square.

“It was the most fun I’ve ever had,” said Alexander C. Huang, 17, a senior at Plano Senior High School in Plano, Tex., who earned a \$10,000 scholarship for research on combating jet lag.

He said he enjoyed the opportunity to be surrounded by like-minded students. “The kid next to me was cracking math jokes,” Alexander said of the bus tour during his first night in New York. “They’re even a little bit nerdier than me.”

Title VII of the Civil Rights Act of 1964, as amended - prohibits discrimination in employment on the basis of race, color, religion, gender, or national origin.

Title IX of the Education Amendments of 1972 - prohibits discrimination on the basis of gender.

Age Discrimination in Employment Act of 1967 (ADEA), as amended - prohibits discrimination on the basis of age with respect to individuals who are at least 40.

The Equal Pay Act of 1963, as amended - prohibits sex discrimination in payment of wages to women and men performing substantially equal work in the same establishment.

Section 504 of the Rehabilitation Act of 1973 - prohibits discrimination against the disabled.

Americans with Disabilities Act of 1990 (ADA) - prohibits discrimination against individuals with disabilities in employment, public service, public accommodations and telecommunications.

The Family and Medical Leave Act of 1993 (FMLA) - requires covered employers to provide up to 12 weeks of unpaid, job-protected leave to "eligible" employees for certain family and medical reasons.

The Pregnancy Discrimination Act of 1978 - prohibits discrimination in employment on the basis of pregnancy, childbirth, or related medical conditions.

Florida Educational Equity Act (FEEA) - prohibits discrimination on the basis of race, gender, national origin, marital status, or handicap against a student or employee.

Florida Civil Rights Act of 1992 - secures for all individuals within the state freedom from discrimination because of race, color, religion, sex, national origin, age, handicap, or marital status.

School Board Rules 6Gx13- 4A-1.01, 6Gx13- 4A-1.32, and 6Gx13- 5D-1.10 - prohibit harassment and/or discrimination against a student or employee on the basis of gender, race, color, religion, ethnic or national origin, political beliefs, marital status, age, sexual orientation, social and family background, linguistic preference, pregnancy, or disability.

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