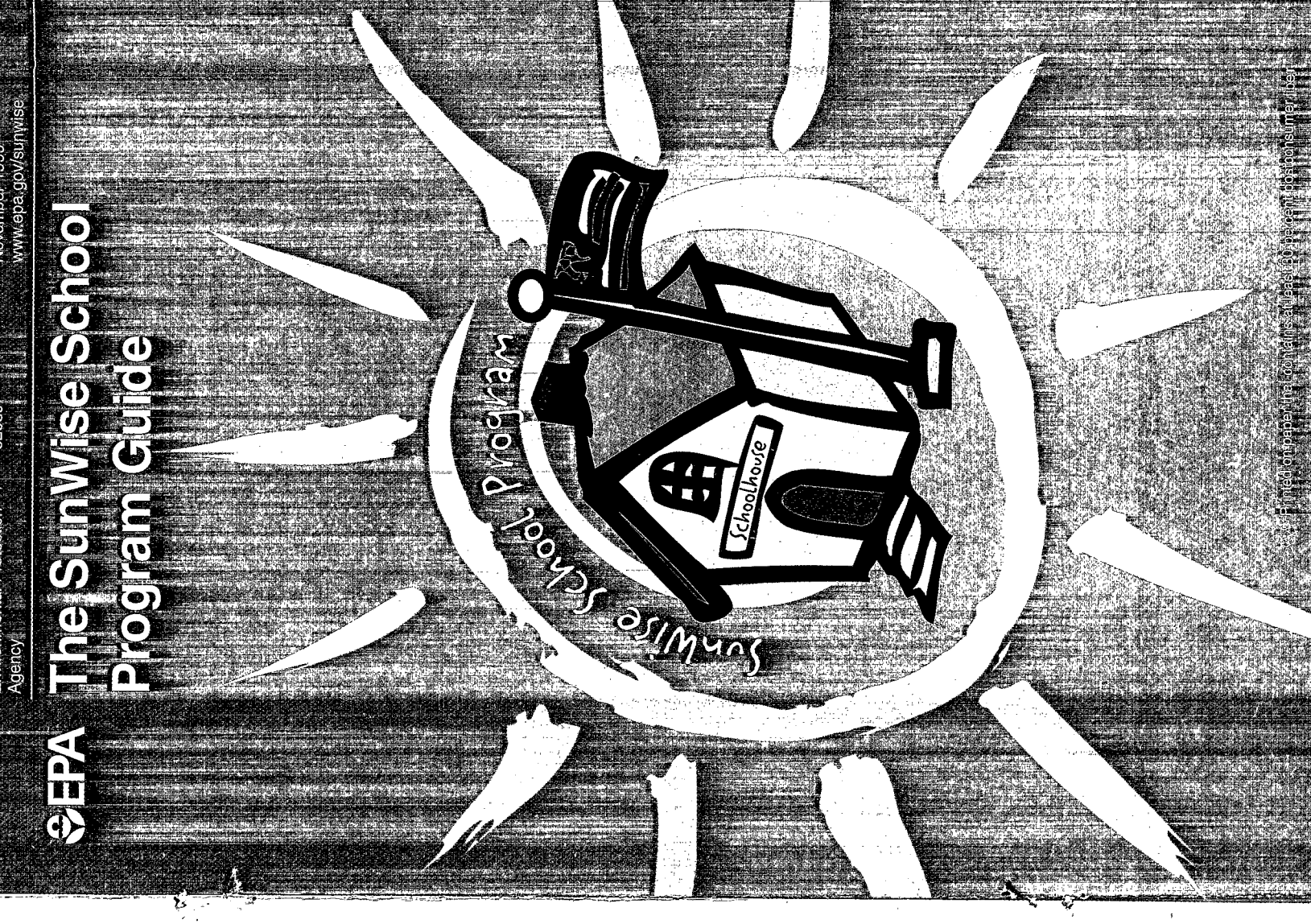

EPA
United States
Environmental Protection Agency
(6205J)
Washington, DC 20460

Official Business
Penalty for Private Use
$300

Additional Sun-Protection Resources

Please contact the following organizations for additional information on sun protection:

American Academy of Dermatology
930 North Meacham Road
P.O. Box 4014
Schaumburg, IL 60173-4965
888 462-DERM (462-3376)
www.aad.org

American Cancer Society
1599 Clifton Road, NE.
Atlanta, GA 30329-4251
800 ACS-2345 (227-2345)
www.cancer.org

Boston University Medical Center
Skin Oncology, Cancer Prevention & Control Center
720 Harrison Avenue, DOB-801A
Boston, MA 02118
617 638-7131

Centers for Disease Control and Prevention
Division of Cancer Prevention and Control
4770 Buford Highway
Chamblee, GA 30341
770 488-4751
www.cdc.gov/cancer

National Association of Physicians for the Environment
6410 Rockledge Drive, Suite 412
Bethesda, MD 20817-1809
301 571-9790
www.napenet.org

National Safety Council
Environmental Health Center
1025 Connecticut Avenue, NW.
Suite 1200
Washington, DC 20036
800 557-2366 #2
www.nsc.org/ehc/sunsafe.htm

The Skin Cancer Foundation
245 Fifth Avenue
Suite 1403
New York, NY 10016
212 725-5176
www.skincancer.org

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"I have a vision of the Earth made green again through the efforts of children. I can see children of all nations planting trees and holding hands around the globe in celebration of the Earth as their home and all children, all people as their family."

—Richard St. Barbe Baker

Acknowledgments

The SunWise School Program would like to thank the many teachers, parents, communities, health professionals, educators, meteorologists, nonprofit organizations, environmental groups, scientists, and others who have helped make the SunWise vision a reality. Your commitment, energy, and dedication are truly remarkable, and the SunWise School Program sincerely appreciates your valuable efforts.

The SunWise School Program is one of several EPA EMPACT projects. SunWise would like to thank the EMPACT Program for its support and assistance. For information about the EMPACT Program, please call 202 564-6791 or visit the Web site at <www.epa.gov/empact>.

For More Information

For more information about EPA's SunWise School Program or sun protection, please contact any member of the SunWise staff (listed below) or visit the SunWise Web site at <www.epa.gov/sunwise>.

Maura Cantor, Director
Phone: 202 564-9096
E-mail: cantor.maura@epa.gov

Linda Rutsch, Schools Coordinator
Phone: 202 564-2261
E-mail: rutsch.linda@epa.gov

Kelly Davis, Web Manager
Phone: 202 564-2303
E-mail: davis.kelly@epa.gov

Kevin Rosseel, Communications Manager
Phone: 202 564-9731
E-mail: rosseel.kevin@epa.gov

Kristin Kenausis, Education Coordinator
Phone: 202 564-2289
E-mail: kenausis.kristin@epa.gov

Mailing address for all staff:

U.S. EPA
401 M Street, SW (6205J)
Washington, DC 20460

For courier or overnight deliveries, please send to:

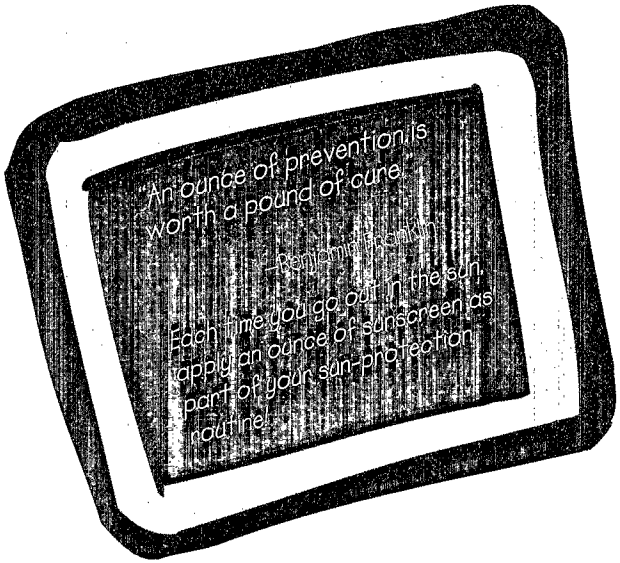
U.S. EPA
501 3rd Street, NW
Washington, DC 20001

protection will greatly reduce eye damage from sun exposure. Wrap-around sunglasses provide the most protection. Tightly woven, loose fitting clothes will provide additional protection from the sun.

✔ **Use sunscreen.** Apply a broad-spectrum sunscreen of SPF 15+ liberally and reapply every 2 hours, or after working, swimming, playing, or exercising outdoors.

✔ **Avoid sunlamps and tanning booths.** The light source from sunbeds and sun lamps damages the skin and unprotected eyes and is best avoided entirely.

Remember, everyday exposure counts! You don't have to be actively sunbathing to get a damaging dose of the sun—take care even when having lunch outside, going on school field trips, taking part in after-school activities, or participating in sports programs. Inform your friends and family about these simple sun safety steps. You could save a life!

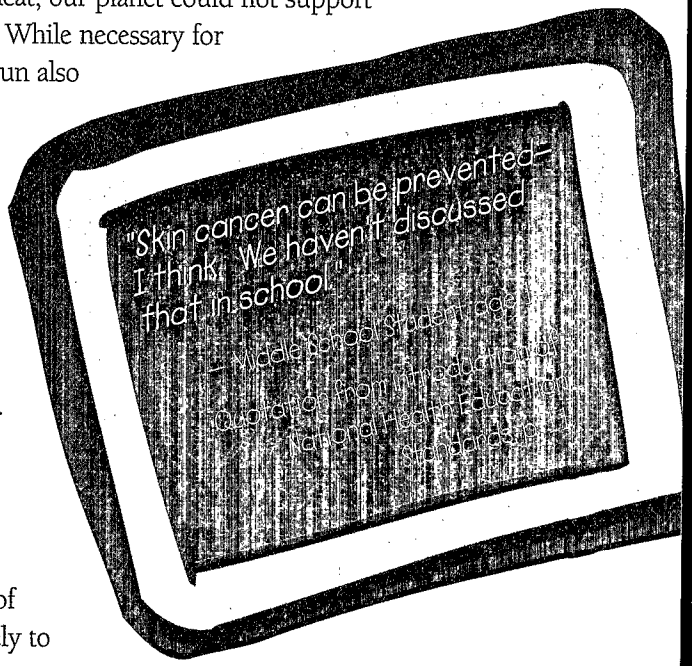


Introduction

Children spend lots of time outdoors during recess, physical education classes, after-school activities, and sports programs. While some exposure to sunlight can be enjoyable and healthy, too much can be dangerous. Overexposure to ultraviolet (UV) radiation can cause serious health effects, including skin cancer and other skin disorders, eye damage and cataracts, and immune system suppression. Currently, one in five Americans develops skin cancer during their lifetime. Every hour one person dies from this disease. The incidence of melanoma, the most serious type of skin cancer, is increasing faster than almost every form of cancer.[1]

You can make a difference! Children are of particular concern since most of the average person's lifetime sun exposure occurs before the age of 18. By educating ourselves and our children about UV-related health effects and the steps for sun protection, we can ensure a healthy future for the next generation.

Without the sun's light and heat, our planet could not support human, animal, or plant life. While necessary for our existence, however, the sun also can threaten our health with its UV radiation. UV radiation comes in several forms (i.e., UV-A, UV-B, and UV-C) that affect human health in different ways. In particular, we must protect ourselves from UV-A and UV-B, which penetrate the Earth's stratospheric ozone layer.



Due to the depletion of the ozone layer, increased levels of harmful UV radiation are likely to

[1] American Cancer Society, "Cancer Facts & Figures 1999."

reach the Earth. These heightened levels may cause the incidence and severity of UV-related health effects to rise, particularly given current sun-protection practices in the United States. Since the condition of the ozone layer is not expected to improve significantly until the middle of the 21st century, we need to change our sun behaviors now in order to protect our future health.

Many believe that only lighter-skinned people need to be concerned about the effects of overexposure to the sun. Though it is true that darker skin has more natural pigment, which acts as a protectant, the skin is still susceptible to many of the damaging effects of UV radiation. The incidence of skin cancer is lower in dark-skinned people, but it still occurs and is often not detected until later stages when it is more dangerous. The risk of other UV-related health effects, such as cataracts, premature aging of the skin, and immune suppression, is not dependent upon skin type.

The good news is that UV-related health effects are largely preventable by instituting sun-protection practices early and consistently. Schools and teachers can play a major role in protecting children by teaching sun safety behaviors.

To help educators raise sun safety awareness, the U.S. Environmental Protection Agency (EPA) has developed the SunWise School Program, a national education program for young children. While SunWise was initially intended for grades K through 6, several middle schools participating in the first program pilot found it easily adaptable to 7th- and 8th-grade learning levels. Any middle school interested in SunWise is encouraged to participate.

Skin cancer and other sun-related health effects are largely preventable.

Be SunWise: Action Steps for Sun Protection

The SunWise School Program has developed a set of action steps for sun protection that can be used in the classroom, on the playground, or elsewhere to help reduce students' and adults' risk from UV radiation. With these steps, preventing overexposure to the sun is simple. You and your students should always take the following precautions:

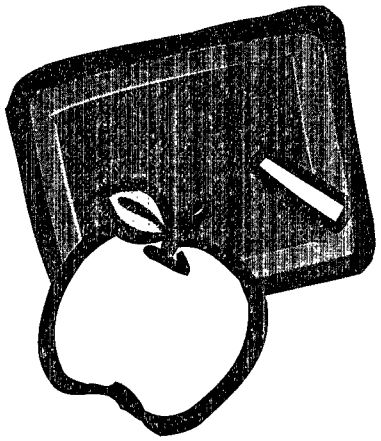
- ✔ **Limit time in the midday sun.** The sun's UV rays are the strongest between 10 a.m. and 4 p.m. To the extent possible, limit exposure to the sun during these hours.
- ✔ **Watch for the UV Index.** This important resource helps you plan your outdoor activities in ways that prevent overexposure to the sun's rays. Developed by the National Weather Service and EPA, the UV Index is issued daily in selected cities across the country. The UV Index uses numbers to represent the likely level of UV exposure (Minimal: 0-2; Low: 3-4; Moderate: 5-6; High: 7-9; Very High: 10+). While you should always take precautions against overexposure, take special care to adopt sun safety practices when the UV Index predicts exposure levels of moderate or above.
- ✔ **Use shade wisely.** Seek shade when UV rays are the most intense, but keep in mind that shade structures (e.g., trees, umbrellas, canopies) do not offer complete sun protection. Students can easily remember the shadow rule: "Watch Your Shadow—No Shadow, Seek Shade!"[2]
- ✔ **Wear protective clothing.** A hat with a wide brim offers good sun protection for your eyes, ears, face, and the back of your neck. Sunglasses that provide 99 to 100 percent UV-A and UV-B

Downham, T.F. "The shadow rule: A simple method for sun protection." In *Journal of the Southern Medical Association*, July 1988, 81:7, 869-873.

Why Should Schools Participate in SunWise?

Being a part of SunWise is a fun, easy, and effective way to protect the health of the children in your school. SunWise is a national education program designed to teach children not only about the health effects of overexposure to UV radiation and how to avoid them, but also about the environmental effects of ozone depletion. The program focuses on the whole spectrum of health effects, including skin cancer, eye damage, and other illnesses, and is appropriate for diverse school populations nationwide. Though based in schools, SunWise also encourages a sustained connection between schools and their communities. By participating in SunWise, children will enhance their creativity, critical thinking, data collection, reading, problem solving, decision-making, and communication skills.

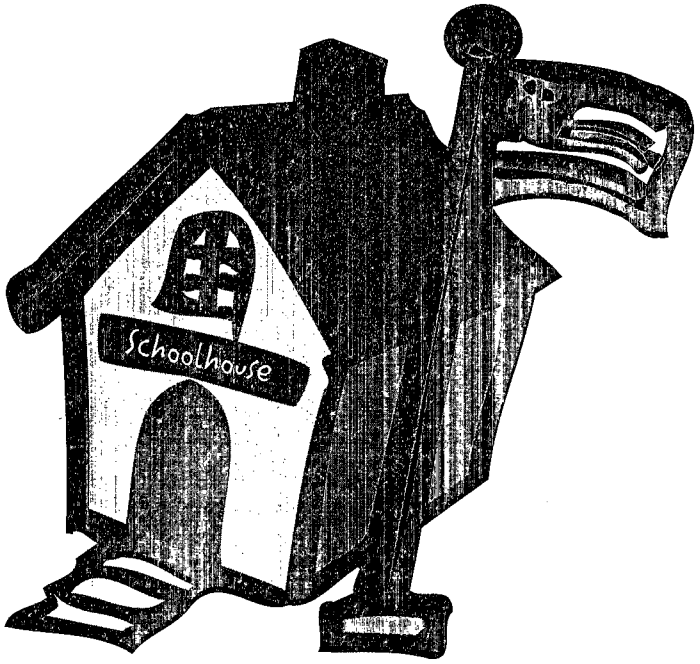
EPA is currently exploring options for recognition incentives (e.g., stickers, bookmarks, water bottles, and more). During the pilot phase, all participating students receive a *Certificate of SunWisdom*. Teachers also will receive a certificate acknowledging their accomplishment. Finally, all participating SunWise Partner Schools will be eligible for the annual *SunWise Helios Award for Sun-Protection Education*. This award will recognize innovative and exemplary efforts in the area of sun-protection education. Guidelines and criteria for the *SunWise Helios Award* are being developed during Pilot Phase II.



SunWise Partner Schools sponsor classroom and schoolwide activities that raise children's awareness of stratospheric ozone depletion, UV radiation, and simple sun safety practices. SunWise is a collaborative effort of schools, communities, teachers, parents, health professionals, environmental groups, meteorologists, educational organizations, and others. With everyone's help, sun protection can grow beyond classrooms to the entire community.

The SunWise School Program Guide is designed to provide school administrators, teachers, nurses, and other childhood caregivers with a general overview of SunWise and the components of the program. Additional brochures and fact sheets are available by calling EPA's Stratospheric Ozone Information Hotline at 800 296-1996 or by visiting the SunWise Web site at <www.epa.gov/sunwise>.

SunWise is intended to actively engage children in the learning process. Its dual focus on health and the environment will help children develop the skills necessary for sustained SunWise behavior and an appreciation for the environment around them.



The SunWise School Program

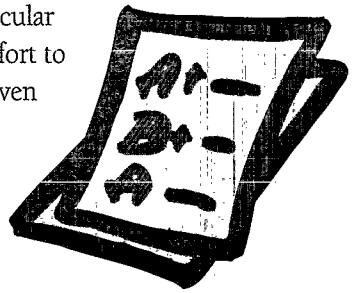
The SunWise School Program is an environmental and health education program that aims to teach children and their caregivers how to protect themselves from overexposure to the sun. Through the use of classroom-based, school-based, and community-based components, SunWise seeks to develop sustained sun-safe behaviors in schoolchildren.

The program's learning components build on a solid combination of traditional and innovative education practices already in use in many U.S. elementary and middle schools. Through the program, students and teachers will increase their awareness of simple steps they can take to protect themselves from overexposure to the sun. Students will demonstrate the ability to practice health-enhancing behaviors and reduce health risks. Children also will acquire scientific knowledge and develop an understanding of the environmental concepts related to sun protection.

The program encourages schools to provide a sun-safe infrastructure, including shade structures (e.g., canopies, trees) and policies (e.g., using hats, sunscreen, sunglasses) that promote sun protection in a school setting. Though based in schools, SunWise also supports community partnerships, such as inviting guest speakers to school assemblies, to enhance sun safety efforts.

Recognizing the many issues schools are asked to address daily, SunWise has been developed with the needs of schools and educators in mind. The program is designed to provide maximum flexibility—elements can be used as stand-alone teaching tools or to complement existing school curricula. The time commitment necessary to implement SunWise is minimal, while the potential payoff in lower skin cancer rates—and other health benefits in the future—is high.

How Will SunWise Be Evaluated?



The SunWise School Program recognizes a particular challenge in measuring the effectiveness of its effort to create sustained SunWise behavior, especially given the latency period associated with the onset of UV-related health effects. Therefore, the careful and consistent evaluation of program effectiveness through a variety of interim measurements—including input from educators and students—is integral to SunWise's success. In addition to the *SunWise Student Survey*, EPA plans to phase in other voluntary evaluation tools, including:

- ✔ **SunWise Parent Survey:** Research indicates that child behaviors are based, in large part, on modeling adult behaviors. If possible, randomly selected schools will ask parents to complete a simple, 10-minute take-home survey to identify their current sun safety practices and observed behavior of their children. (Note: Surveying is conducted for the sole purpose of evaluating the SunWise Program to help improve its messages and approaches. All personal information will remain anonymous and confidential.)

- ✔ **Teacher Evaluation of Classroom Activities:** Teachers will be asked to evaluate student receptivity to sun safety lessons and Internet learning. Teacher feedback about the usefulness of classroom and school materials will be vital to the refinement of sun safety education materials.

- ✔ **Teacher and School Administrator Evaluation of Infrastructure Improvements:** Teachers and school administrators will be asked to evaluate the practicality and success of proposed sun-protection policy changes, infrastructure enhancements, and the SunWise Program as a whole.

✔ SunWise Internet Learning Site and UV Database

In order to make the best use of innovative educational and information-sharing technologies, EPA developed an Internet Learning Site as part of its main SunWise Program Web site. An easy-to-use, interactive medium for children, the Internet Learning Site features drop-down lists, check boxes, radio buttons, and eye-catching icons. Students and teachers can use the site to:

- Report and interpret daily measurements of UV radiation.
- Link to other educational activities and resources.
- Correspond with other schools participating in the SunWise Program (starting in Spring 2000).

Through the Internet Learning Site, students can enter daily UV data, weather conditions, and information regarding daily sun-protection practices. The students' UV measurements will consist of:

- Community-specific UV Index data derived from the National Weather Service Web site.
- Actual data obtained from hand-held UV monitoring devices (provided to schools by the SunWise Program).

Once schools register, teachers will receive secure IDs for entering daily UV data on the Internet Learning Site.

✔ Teacher/Parent Training Materials

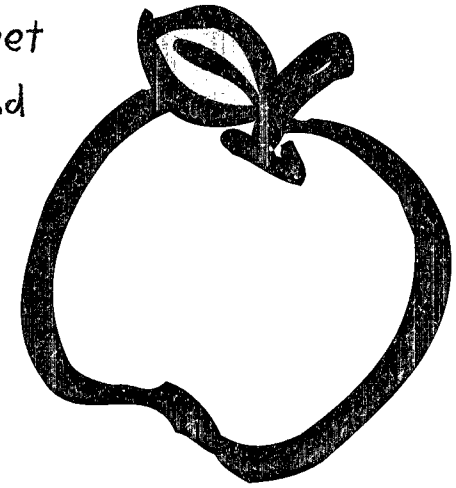
An informative 12-minute video will be available to participating schools. This video provides teachers and caregivers with an overview of ozone depletion, health effects of overexposure to the sun, and preventive sun safety actions. The video can be used by teachers and school representatives in a training setting or to inform parents about the importance of sun safety for children.

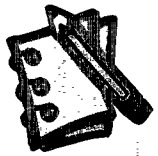
The SunWise School Program was pilot tested in May 1999 (Phase I) and is undergoing more testing during the 1999-2000 school year (Phase II). National implementation is targeted for the 2000-2001 school year. The components of the SunWise Program outlined below are available to Partner Schools free of charge.

SunWise School Program Components

Classroom	School	Community
✔ *SunWise Student Survey*	✔ Infrastructure Enhancements (e.g., sun-safe policies and structures)	✔ Community Partnerships (e.g., guest speakers and business partnerships)
✔ Cross-Curricular Classroom Lessons	✔ School-Based Sun Safety Activities (e.g., school assemblies)	
✔ Internet Learning, Including UV Measurement and Reporting	✔ Training Materials	
✔ Participation Incentives	✔ Participation Incentives	
✔ Evaluation of SunWise School Program	✔ Evaluation of SunWise School Program	

SunWise Lessons meet national science and health education standards.





How Do We Become a SunWise Partner School?

Becoming a SunWise Partner School is easy! Any elementary or middle school in the United States may participate in the SunWise School Program. A single classroom, multiple classrooms, a school, or an entire school district may join. To become a SunWise Partner School, you must:

1. **Register as a SunWise Partner School.** Educators are asked to complete the registration form located on the SunWise Web site at <www.epa.gov/ sunwise>. Printed copies also can be downloaded from the Web site. A hard copy can be found in the middle of this guide as well. EPA knows the registration form requires a substantial amount of information and appreciates your efforts to fill it out as completely as possible.

2. **Complete the *SunWise Student Survey* before and after implementation of SunWise Activities.** This simple, 10-minute questionnaire, developed by Boston University's Skin Cancer Prevention Team, elicits basic information on attitudes and practices of children relating to sun exposure. This survey will provide information for evaluation purposes only. All personal information will remain confidential.

3. **Adopt at least one of the following supplemental SunWise Activities:**

   ✔ Cross-curricular classroom lessons.

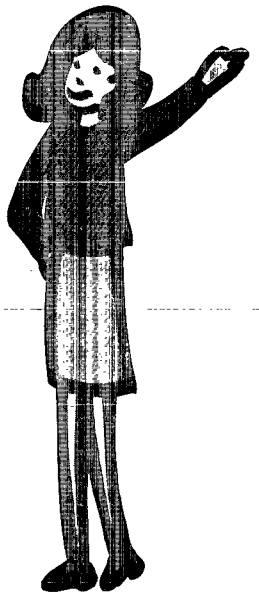
   ✔ UV measurement and reporting on the Internet.

   ✔ School infrastructure enhancements (school policy changes and/or sun-protection structures).

   ✔ Community outreach (inviting guest speakers and forming business partnerships).

   ✔ Teacher/parent training.

What Tools Are Available to SunWise Partner Schools?



Based on the activities you choose, you will receive, free of charge, materials and tools to help you implement SunWise in your classroom or school.

✔ Activity Guide

An activity guide containing cross-curricular classroom lessons and background information for primary and intermediate learning levels will be available to all SunWise Partner Schools. This guide was researched, tested, and developed by teachers, school administrators, health professionals, scientists, parents, and local and national environmental, health, and education organizations, as well as federal agencies.

The guide is currently packaged as a 1-hour core sun safety unit. Each lesson consists of a variety of fun, developmentally appropriate activities that combine education about sun protection and the environment with other aspects of learning. Supplemental activities also are available in the event that a teacher wishes to extend the lesson beyond the 1-hour core unit.

Information for schools interested in promoting sun protection through infrastructure enhancements also is available. These materials feature suggestions on reaching out to schools and families with sun safety policies, forming community partnerships, making structural changes, and organizing sun safety events. Long-term sun safety might involve gradual changes in the school's environment as well as in individual attitudes and behaviors. The guide also includes an extensive list of other sun-protection resources.

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U S ENVIRONMENTAL PROTECTION AGENCY
SUNWISE SCHOOL PROGRAM
401 M ST SW (6205J)
WASHINGTON DC 20077-5449

Fold Here

Mailing Instructions

Carefully remove the entire form from the booklet and fold it as indicated above, with the address visible. To ensure the form remains folded during shipment, secure it with a piece of tape. No postage is necessary.

SunWise School Program Identification

Please assign an identification name for each class that will be participating. **If you plan to register more than one class, please submit a separate registration form for each participating class.** You are free to pick any name, using numeric and/or alpha characters, but it should not exceed 6 characters. Upon receipt of this form, SunWise will provide you with a confirmation of your registration, as well as a computer-generated Class ID, which you will need for data entry purposes on the SunWise Internet Learning Site.

Identification Name _____ Number of Students in Class _____

Grade Level of Class _____

SunWise School Program Guide
Registration Form

Registering for the SunWise School Program is easy! Simply review the program requirements and the activities described on this form, then choose the activities in which you would like to participate. We'll send you everything you need. Please fill out this form completely and use the self-addressed cover to mail it back to EPA. You also can register through the SunWise Web site at <www.epa.gov/sunwise>. Thanks for your participation!

Pilot Participant Requirements

1. Complete and return this self-addressed form.
2. Complete and return the *SunWise Student Survey* before and after you complete one or more of the activities outlined on this form. (The survey will be mailed to you after you register.)
3. Adopt at least one of the SunWise activities described on this form.

Registration

For 1999-2000 school year:
Registration forms accepted until **February 29, 2000.**

For 2000-2001 school year:
Registration opens **March 1, 2000** and closes **February 28, 2001.**

If you have any questions about this form or about SunWise, please call Linda Rutsch at 202 564-2261.

About Your School

School Name: _____

Street Address: _____

City: _____ State: _____ ZIP Code: _____

Web site address: _____ Phone: _____

Principal's Name: _____

School District Name: _____

Does Your School Have Videoconferencing Capability? ❑ Yes ❑ No

School Type: (check all that apply) ❑ Elementary ❑ Middle ❑ Grades 1-8 ❑ Other ❑ Year-Round School ❑ Public School ❑ Private School

Number of Students in School (Estimate): _____

About Yourself

Name: _____

E-mail: _____ Phone: _____

For what school year are you registering? ❑ 1999-2000 ❑ 2000-2001

Average Class Size: ❑ 1-15 ❑ 16-25 ❑ 26-30 ❑ 31+

Grades You Teach: ❑ K ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 ❑ 6 ❑ 7 ❑ 8

Subjects You Teach: ❑ Science ❑ Math ❑ Health ❑ English ❑ Social Studies ❑ Physical Education ❑ Geography ❑ Other

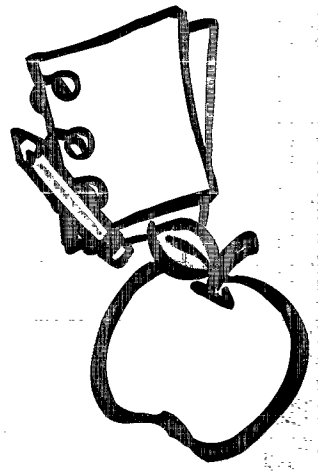
Have you taught or worked in the following areas (check all that apply)?

❑ Sun Protection ❑ Environmental Issues ❑ World Wide Web

SunWise Pilot Activities

Please indicate below which SunWise activities you would like to implement in your classroom or school. For more information on each activity, **see the descriptions below**. Please choose at least one activity but feel free to implement as many as you like. Remember, all materials and tools will be provided to you **free of charge**.

- Cross-Curricular Classroom Lessons ❑
- Reporting of the UV Index on the Internet Learning Site ❑
- Reporting of UV Ground Data (via Hand-Held Monitor) on the Internet Learning Site ❑
- Infrastructure Enhancements: Policy Changes ❑
- Infrastructure Enhancements: Shade Structures ❑
- Community Partnerships ❑
- Schoolwide Sun Safety Activities ❑
- Teacher/Parent Training Materials ❑



Cross-Curricular Classroom Lessons
A sun safety activity guide includes a 1-hour sun safety unit. Lessons focus on UV radiation effects, risk factors for overexposure, and sun-protection habits. Activities are included for primary (K-2) and secondary (3-6) learning levels.

Reporting the UV Index or UV Ground Data on the Internet Learning Site
This interactive, easy-to-use EPA Web site is fun and colorful. Teachers and students can use the site to report and interpret daily UV data and weather conditions. EPA also provides hand-held UV monitoring devices for data collection.

Infrastructure Enhancements—Policy Changes
Simple improvements such as rescheduling recesses during a time of day with lower UV radiation levels, or requiring students to wear hats, sunscreen, or eye protection, are described in a sun safety activity guide.

Infrastructure Enhancements—Shade Structures
Ideas for infrastructure improvements, such as the addition of trees, canopies, or other shade structures, are included in a sun safety activity guide, and EPA is available to advise participants.

Community Partnerships
Schools can work with local organizations, such as nurseries or television stations, to show students how sun safety practices extend beyond the classroom.

Schoolwide Sun Safety Activities
Classes can use SunWise Program knowledge to share sun safety messages with the whole school. Suggestions for schoolwide events are included in a sun safety activity guide.

Teacher/Parent Training Materials
A 12-minute video provides schools and caregivers with an overview of ozone depletion, health effects of overexposure to the sun, and preventive sun safety actions.