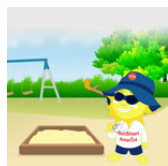


SunSmart America™ Grade 4 Curriculum

Integrated Lessons for Elementary School Classes

It Pays to Stay Out of the Rays





Acknowledgements

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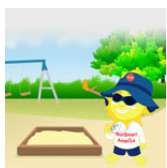
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*is adapted from Be SunSmart with permission from
The Anti-Cancer Council of Victoria, Australia*

A special thank you to Larry and Jane Katzen for funding the rights to utilize the Australian curriculum in the United States, and to the Toppel Family Foundation for supporting the initial development of the SunSmart America Curriculum.



SunSmart America
It Pays to Stay Out of the Rays

Grade 4
Table of Contents

Introduction

Thank you from the Richard David Kann Melanoma Foundation

Letter from the Superintendent

Important Notes to Teachers

Skin Cancer Information Sheet

Pre-Post Test

Lessons

Lesson 1: The Ozone

Benchmark Correlation: SC.D.2.2.1; SC.G.1.2.1, 1.2.2; SC.H.3.2.1; SC.H.3.2.3; HE.A.1.2.5; LA.B.2.2.4,2.2.6; LA.C.1.2.1; LA.C.3.2.1, 3.2.2, 3.2.3,3.2.4,3.2.5

Objective: Students will be able to explain what the ozone layer is, the effects of pollution on it, and what it has to do with sunburn.

Lesson 2: Ultra Violet Rays and Sun Protection

Benchmark Correlation: SC.C.1.2.2; SC.G.2.2.1; HE.A.1.2.2, 1.2.5; HE.B.1.2.1,1,2,4; HE.C.2.2.1,2.2.6; LA.C.1.2.1; LA.C.3.2.4,3.2.5

Objective: Students will be able to tell a friend and an adult the importance of protecting against UVA and UVB rays; students will be able to explain the Sun Safety Rules.

Lesson 3: The UV Index

Benchmark Correlation: SC.B.1.2.3; SC.E.1.2.1; SC.H.2.2.1; SC.H.3.2.4; HE.A.1.2.2, 1.2.5; HE.B.1.2.2, HE.C.1.2.1; HE.C.2.2.6; MA.C.3.2.2; MA.D.1.2.1,2.2.2

Objective: Students will practice reading the UV Index and plan outdoor activities and how to dress accordingly

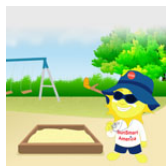
Lesson 4: A SunSmart Leader

Benchmark Correlation: SC.F.1.2.1; SC.F.1.2.4; HE.A.1.2.2, 1.2.5,1.2.7; HE.B.1.2.4,2.2.2; HE.C.2.2.1,2.2.4; LA.B.2.2.5; LA.C.1.2.3,1.2.5; LA.C.3.2.1,3.2.2

Objective: Students will discover how to be leaders in the fight against skin damage from the sun; they will discuss with their parents the importance of checking all their skin from head to toe.

Parent Open House Handouts

***SunSmart America* Resource List**



Introduction to SunSmart America

The Richard David Kann Melanoma Foundation, in cooperation with the Palm Beach County School District, developed the *SunSmart America* curriculum for High School Science to educate high school students, teachers, and administrators about the prevention and early detection of skin cancer.

As you may know, skin cancer is most often due to overexposure to the sun and is highly preventable. Each year in the United States, more than one million cases of skin cancer are diagnosed- that is one out of every five people. In Florida, it is even worse—one out of every three Florida residents will be diagnosed with skin cancer at some point in their lifetime. We can change that. By teaching children and parents the basics of being 'SunSmart', and by providing the information and mechanisms that support being sun smart, behavioral changes should occur to reduce the epidemic incidence rates of skin cancer in this country.

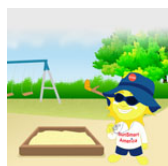
Hundreds of science teachers in Palm Beach County have participated in voluntary training sessions to learn to teach this curriculum and provide life-saving skin cancer education while meeting all Florida Sunshine State Standards in this subject.

In order to meet Florida Sunshine State Standards all *SunSmart America* lessons are benchmarked to correlate with required teaching for the FCAT, thus allowing teachers to use the curriculum for Science, English, Health, and Physical Education. *SunSmart America* has won the American Academy of Dermatology's Gold Triangle Award for Excellence seven times. In addition, in 2002, it was selected by the Centers for Disease Control and Prevention to be part of 2002 National Science Olympiad.

SunSmart America for High School Science was the start of a revolution in education- incorporating challenging, life-saving and engaging science and behavioral information while meeting Florida educational mandates and benchmarks.

As a result of the success of *SunSmart America* for high schools, the following curriculum was developed as part of *SunSmart America* for elementary schools- grades K-5. With your help, we can provide high quality education to our students and provide life-saving information that will help prevent skin cancer.

Welcome to *SunSmart America's* Elementary School Curriculum!



Richard David Kann
Melanoma
F O U N D A T I O N

Thank you from the Richard David Kann Melanoma Foundation

The Richard David Kann Melanoma Foundation is a non-profit organization established in 1995 to educate the public on the prevention and early detection of skin cancer. The Foundation provides quality education programs and curriculum in schools and throughout communities, designed to facilitate knowledge and attitudinal changes that will inspire life-saving sun safe behavior and routine skin self-examinations. More than one million Americans will be diagnosed with skin cancer this year – that number is more than all other cancer cases combined — and more than 12,000 will die from it. This is tragic, as this disease is highly preventable and curable, if you know and follow the simple steps for prevention and early detection.

The Foundation was established in memory of Richard (Dicky) Kann who died in 1995 at the age of 44, from late-detected melanoma – the deadliest form of skin cancer. Dicky grew up in Miami Beach and, like many, did not know to pay attention to his sun overexposure. Had Dicky been aware of skin cancer prevention and simple early detection techniques, he might still be alive today. It is in his memory that the Melanoma Foundation has been established – so that no other family suffer this unnecessary and avoidable tragedy.

The Foundation would like to recognize Jane Katzen and Dr. John Kinney for laying the groundwork for the relationship the Foundation has developed with the School District of Palm Beach County. We also want to thank School Board member Bill Graham whose unending enthusiasm and constant support has been more than invaluable over the years, and Dr. Art Johnson for allowing the Foundation to continue growing with the School Board and allowing the School District to collaborate with the Foundation in the hopes of saving lives through high quality curriculum that meet all Florida State Educational Standards.

A special thanks to the School District's Program Planners, in particular Fred Barch and Corinne Measelle. Without their expertise, precious time and support, we could not have made the in-roads we did so quickly and efficiently. And of course, thank you to all the teachers in Palm Beach County and throughout the country who utilize SunSmart America in the classroom and are our children's daily 'lifesavers'.

It is our hope and expectation that through the implementation of SunSmart America, the Foundation's goal of decreasing the morbidity and mortality from skin cancer will become a reality.

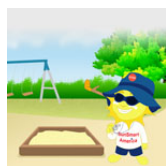
Sincerely,



Debbie Kann Schwarzborg, Founder & President

Richard David Kann Melanoma Foundation, West Palm Beach, Florida, April 2002

Richard David Kann Melanoma Foundation, West Palm Beach, Florida 561-687-2400 www.melanomafoundation.com



Integrated Lessons for Elementary School Classes

Richard David Kann
Melanoma
FOUNDATION



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CHARLES E. SHAW

September 25, 2012

Dear Richard David Kann
Melanoma Foundation,

An Opportunity to Save Lives

This year marks a renewed effort in education, as we recognize the need to solve a hard problem that plagues our young people - skin cancer, especially melanoma. During the first 18 years of a child's life, they are exposed to more sun than they most likely will experience for the rest of their adult lives. This is the time when they are susceptible to burn which increases their risk of developing melanoma. These are also the years when they are the most malleable and the knowledge that we provide will sustain them during adulthood. One person dies from melanoma every 50 minutes, one in every 50 people will be at risk to get melanoma, and Florida is the state with the second highest incidence of melanoma in the country.

The School District of Palm Beach County partners with the Richard David Kann Melanoma Foundation as we support their development and implementation of a body of work that educates students in grades K-12. These life-saving programs include the SunSmart America™ K-12 curriculum (www.melanomafoundation.com), peer-based Students Against Melanoma (SAM) Clubs in middle and high schools, and the K-12 Melanoma Monday Art Contest in May.

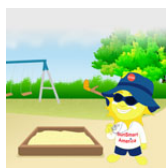
The SunSmart America curriculum contains grade appropriate lessons and activities that have been adapted to meet all FCAT and Next Generation Sunshine State Standards. Students will learn the basics regarding skin cancer, and ***most importantly, the prevention and early detection of a disease that is almost 100% preventable with education!***

I want to thank the Richard David Kann Melanoma Foundation of Palm Beach County for providing valuable resources and educational materials regarding sun safety education. The Foundation has been an active member of our Wellness Task Force.

Sincerely,


E. Wayne Gent
Superintendent

EWG/JA/KO/LP/ES:du



Important Notes to Teachers

Thank you for spearheading the initiative of being sun smart in your classroom by reviewing this curriculum. The intention of *SunSmart America's* Elementary School Program is to raise awareness in children and adults about the importance of skin cancer prevention and early detection from skin damage caused by the sun. The program is designed to assist teachers and parents in developing positive attitudes in their students that will ultimately lead to healthy behaviors regarding being sun smart. It is available in English, Spanish, and Haitian Creole.

To accomplish this, each grade level, in an age-appropriate manner, focuses on the five safety rules of *SunSmart America*: (1) wear protective clothing, (2) wear a wide-brimmed hat, (3) wear sunglasses with UV protection, (4) wear sunscreen and lip balm with an SPF of 30-50+, and (5) seek shade between the hours of 10:00 a.m. and 4:00 p.m. Protective factors that are proven to help reduce many other unhealthy risk behaviors are included in the lessons, specifically life and thinking skills and strong parental involvement. All lessons, at each grade level, are designed in the same format. They have been correlated to the benchmarks of the **Sunshine State Standards**.

There are four independent lessons; four independent objectives at each grade level. Each core lesson will take approximately 30 minutes to complete. A variety of reinforcement activities also are available in each lesson. Obviously, lesson time will increase with the number of activities chosen. Lessons can be integrated into different disciplines including Science, Health, Language Arts and Math. Depending on the lesson, there are persuasive writing activities, social studies activities, mapping, art projects, math calculations and graphing that make lessons cross-disciplinary. All lessons are divided in the following manner:

Testing

A **Pre-Post Test** is available for each grade level to help assess the success of the curriculum. Please administer the test to each student before beginning Lesson 1. Then have each student complete the **same test** again after all four lessons have been completed. If time restraints prohibit all four lessons from being taught, please select those questions that only pertain to the taught lessons.* (See below)

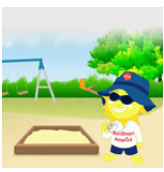
Sunshine State Standards

Each lesson has been correlated to Sunshine State Standards. The Benchmark Correlation appears at the top of the first page of each lesson. The correlations between lessons and standards were made and reviewed by elementary school teachers.

Lesson Design

Objective: Each lesson begins with the objective. The objective relates to the knowledge and skills presented in the lesson. It appears directly under the Benchmark Correlations. Each objective is independent, allowing each lesson to stand on its own.

Pre-assessment: This is the lesson stimulator. The pre-assessment adds significance to the coming lesson through querying the class as to their present understanding of the subject matter in terms of knowledge, skills and experiences. The pre-assessment is presented in various forms including question/answers, creative definitions, role-plays, drawings, and observations.



Integrated Lessons for Elementary School Classes

Discussion: The discussion presents the students with the knowledge and skills steps necessary to understand the concepts presented in the lesson.

Classroom Activities: Classroom activities direct students to apply what they have learned in the classroom to real life situations. This is done through activities developed around critical and creative thinking skills and life skills such as decision-making and goal setting. These activities focus on one or more learning styles, and target the various levels of learning from knowledge through evaluation, depending on grade level. Each activity is labeled as to the type of skill it targets, the learning style being addressed, and the materials needed.

Home Activities: Family support and involvement is encouraged through *SunSmart America* home activities. These reinforcement projects and worksheets strengthen the learning that has taken place in school and are so essential to the learning process, especially when lesson goals are behavior oriented. Home Activity pages are to be copied and sent home with students. A note to the parent explains the objective of each activity and directions on how to complete the assignment.

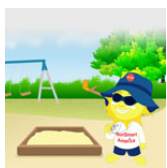
Post-assessments: Post-assessments measure student understanding that has resulted from the lesson through independent, group and class activities.

Teaching & Learning Styles

Activities within the lessons have been designed with Howard Gardner's Multiple Intelligence Theory (Gardner, Howard. *Frames of Mind: The Theory of Multiple Intelligences*. New York: BasicBooks, 1983.) in mind and address all types of learners: linguistic, spatial, musical, environmental, math/logical, kinesthetic, interpersonal and intrapersonal. Students write songs, poems and stories, complete art projects, demonstrate through role plays, discuss knowledge, conduct science experiments, and play physical and word games. Skills practice includes goal setting, prediction, decision-making, compare and contrast, reading labels, and communicating. Instructional strategies both are teacher and student directed and target short lecture or discussion, group interaction, working in pairs or independently, working with parents, and using a variety of resources, including the Internet.

Thank you!

The Richard David Kann Melanoma Foundation would like to take the opportunity to thank all of you for your participation in this program. We hope that you will be as enthusiastic about teaching *SunSmart America* as we have been in creating it. With the tremendous time restraints within which all of you must operate, we appreciate your acknowledgement of the importance of teaching children about protecting themselves from the harmful rays of the sun and hope that you will make room in your busy schedules for our curriculum. The Foundation can develop materials to make your job a little easier, but the Foundation cannot reach all of the lives that you as classroom teachers can. That is why we desperately need your help—to be our partners in getting sun safe messages across to the children of Palm Beach County. Together, we can make a difference!



SKIN CANCER INFORMATION SHEET

1. What is Skin Cancer? Skin cancer is a disease of the cells of the skin. Healthy cells that make up the body's tissues grow, divide and replace themselves in an orderly way. This process keeps the body in good repair. Sometimes, however, normal cells lose their ability to limit and direct their growth. They divide too rapidly and grow without order. **This process can result in skin cancer and other cancers.**

There are three different types of skin cancers. Skin cancer is usually curable if detected early and removed as soon as possible.

a. Basal Cell Carcinoma

This is the most common form of skin cancer. Basal cell skin cancer accounts for 80% of all new skin cancer cases.

90% of basal cell cancers are found on the head and neck and other areas of the body that receive sun exposure.

Basal cell looks like a sore that does not heal very well, a reddish patch, shiny bump, or a growth with a sore in the center.

b. Squamous Cell Carcinoma

This is the second most common form of skin cancer.

The majority of these skin cancers are also found on exposed areas.

Squamous cell has a 90% cure rate if found early. If left untreated, it can spread to vital organs or cause structural damage to surrounding tissues.

Squamous cell looks like a scaly lump or patch, or has a sore in the middle. Later it may bleed easily or form an ulcer.

c. Melanoma

Melanoma is the deadliest form of skin cancer.

Melanoma can develop anywhere on the body.

Melanoma is the most commonly occurring cancer in women between the ages of 25 and 29 and the second most frequent in women ages 30-34.

Over 50,000 people will develop melanoma and over 10,000 will die from this disease.

Melanoma can start as a mole or spot on the skin, but there are specific characteristics that help tell it apart from a healthy mole or spot.

THIS IS CALLED THE ABCDE RULE

Asymmetry: When half of the mole or lesion does not match the other.

Border: Melanomas often have blurred, notched, ragged or uneven edges, while healthy moles have smoother, more even borders.

Color: Healthy moles are usually a single shade of brown. Moles varied shades of black, brown and tan often are the first signs of melanoma. Colors of red, white and blue also may appear as the melanoma progresses.



Diameter: Moles that grow larger than a pencil eraser are a cause for concern.

Enlargement: Change in thickness of the mole

2. Reasons to Protect Your Skin

Your skin is the largest organ on your body and protects the rest of your body: vital organs, muscle, blood, ligaments, tendons.

Spending too much time in the sun increases your risk for skin damage: wrinkles, freckles and skin cancer.

A tan is not healthy and is a sign of skin damage, which can lead to skin cancer.

3. More Facts About Skin Cancer

Skin cancer is almost 100% preventable and curable if detected early.

Eighty percent of skin cancer is caused from sun overexposure.

1 person dies every hour from skin cancer.

Melanoma is more common than any other cancer among women 25-29 years old.

1 out of every 5 Americans, 1 million people total, will be diagnosed with skin cancer this year. That's more than all the other cancers combined!

1 to 2 blistering sunburns before the age of 18 doubles your risk for developing skin cancer.

Skin cancer can affect anyone of any skin color. It is more common in Caucasians, but people from all races can and do get skin cancer.

Early detection is key! Skin cancer is almost 100% curable by lesion excision (removal of cancerous area), if detected early.

4. Skin Cancer Prevention

Use a sunscreen and lip balm with an SPF (Sun Protection Factor) of 30-50+. **Generously** apply sunscreen at least 30 minutes before you go outside, and reapply every 2 hours, even if the sunscreen is waterproof.

Reapply after sweating, swimming or other activities. Make sure the sunscreen has both UVA and UVB protection and is broad spectrum.

Stay out of the sun as much as possible between the hours of 10:00 a.m. and 4:00 p.m., when the sun's rays are strongest.

Wear sunglasses to protect your eyes from the UV rays. Make sure that they have both UVA and UVB protection. Too much damage to the eyes can lead to cataracts and even blindness.

Wear protective clothing when outdoors, such as a long sleeve shirt and pants that are lightweight and tightly woven. There is also protective clothing that actually has an SPF in the fabric. FYI: Although a cotton t-shirt is better than nothing, most only have an SPF of 4 when dry and provide no UV protection when wet.



Find shaded areas when outside: trees, umbrellas, buildings etc.

Protect yourself on cloudy days. The UV rays still go through the clouds and can cause your skin to burn or tan.

Wear a hat with a wide brim that goes all the way around the head to protect your ears, side of face and neck.

Stay away from tanning booths! They are just as dangerous as the sun's rays and can burn your skin and can cause skin cancer.

5. UV Radiation

There are 2 different kinds of invisible radiation that come from the sun, UVA and UVB. Both are dangerous, cause premature wrinkles and can increase your chances of developing skin cancer. These rays are always present when the sun is up, even if it is cloudy.

UVA rays are released in greater amounts throughout the day and year round. UVA rays penetrate to the dermis (the inner layer of skin) and cause wrinkles and freckles.

UVB rays are the most damaging and can produce immediate sunburns. UVB rays activate melanin, which causes the skin to tan and burn.

BUT BOTH ARE DANGEROUS!

UVA = Aging/UVB = Burning

6. Skin Examinations

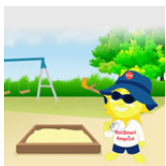
“Know the Skin You Are In!” Look for irregular (according to the ABCDE rules above) moles, spots or freckles on the skin, or any new or changes in existing moles, spots or freckles.

Do regular self-examinations of your skin. Check all over your body and keep an eye on things that look irregular. If you do see something suspicious, go to your dermatologist immediately.

Check your back or hard-to-see parts of your body by using a mirror, and check your scalp by using a blow-dryer to see under your hair.

Everyone, starting in their teen years, should see a dermatologist at least once a year for a regular full body skin examination.

Sources: American Academy of Dermatology, American Cancer Society, Environmental Protection Agency



SunSmart America
It Pays to Stay Out of the Rays
Grade 4
Pre-Post Test

Note to Teacher: The following is a pre-post test to help you assess the success of *SunSmart America*. Please have each student complete the test before teaching the SunSmart lessons. Then have each student complete the same test again after all four lessons have been completed. If time restraints prohibit all four lessons from being taught, please post test only those lessons which are taught selecting only those questions that pertain to the taught lessons.



SunSmart America
It Pays to Stay Out of the Rays

Grade 4
Pre/Post Test

Name _____

ID _____

1. The ozone layer (circle one)
 - a. helps the world spin on its axis
 - b. protects us from the sun's burning rays
 - c. lets us see the planets
 - d. provides us with oxygen
2. UVB rays (circle one)
 - a. burn our skin if we don't protect it
 - b. never reach the earth
 - c. cure cancer
 - d. come from the moon
3. List the five *SunSmart America* Rules
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.
4. The UV Index (circle one)
 - a. tells whether or not it is going to snow
 - b. tells what time the sun will rise
 - c. tells the daily forecast of UV radiation
 - d. tells whether or not it is safe to fly a plane
5. The UV Index ranges from (circle one)
 - a. 5-12
 - b. 1-15
 - c. 10-100
 - d. 8-12
6. If the UV Index is 8, is it safe to play outdoors without sun protection? Why?
7. You are watching your little sister. The UV Index is 6. How will you dress the child to go out to play?



SunSmart America

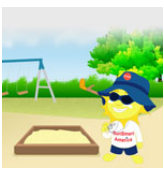
It Pays to Stay Out of the Rays

Grade 4

Pre/Post Test

Answer Key

1. The ozone layer (circle one)
 - a. helps the world spin on its axis
 - b. protects us from the sun's burning rays**
 - c. lets us see the planets
 - d. provides us with oxygen
2. UVB rays (circle one)
 - a. burn our skin if we don't protect it**
 - b. never reach the earth
 - c. cure cancer
 - d. come from the moon
3. List the five *SunSmart America* Rules
 - 1. wear protective clothing**
 - 2. wear a wide-brimmed hat**
 - 3. wear sunglasses with UV protection**
 - 4. wear sunscreen and lip balm with an SPF of 15 or higher**
 - 5. seek shade between the hours of 10:00 a.m. and 4:00 p.m.**
4. The UV Index (circle one)
 - a. tells whether or not it is going to snow
 - b. tells what time the sun will rise
 - c. tells the daily forecast of UV radiation**
 - d. tells whether or not it is safe to fly a plane
5. The UV Index ranges from (circle one)
 - a. 5-12
 - b. 1-15**
 - c. 10-100
 - d. 8-12
6. If the UV Index is 8, is it safe to play outdoors without sun protection? Why?
No. It is not safe to be in the sun without sun protection because UV radiation levels are high.
7. You are watching your little sister. The UV Index is 6. How will you dress the child to go out to play?
Wear a wide-brimmed hat
Wear a long sleeve shirt
Wear long pants or a long skirt
Wear sunglasses with UVA/UVB protection
Wear sunscreen



SunSmart America
It Pays to Stay Out of the Rays

Grade 4

Lesson 1: The Ozone

Benchmark Correlation: SC.D.2.2.1; SC.G.1.2.1, 1.2.2; SC.H.3.2.1; SC.H.3.2.3; HE.A.1.2.5; LA.B.2.2.4,2.2.6;
LA.C.1.2.1; LA.C.3.2.1, 3.2.2, 3.2.3,3.2.4,3.2.5

Objective: Students will be able to explain what the ozone layer is, the effects of pollution on it, and what it has to do with sunburn.

Learning Objective:

Students will be able to:

Explain the purpose of the ozone layer,

Identify the effects of pollution on the ozone layer,

Identify the health risks which occur with a thinning ozone layer.

Pre-Assessment

Ask:

Who knows what the ozone layer is?

Who can tell me what the ozone layer has to do with sunburn?

Discussion

Teacher: See Black Line Master 1 “The Atmosphere”; create transparency

Explain:

The ozone layer is located from 12 to 30 miles above the surface of the earth. Its job is to protect life on earth from the burning ultraviolet rays of the sun. It does this by creating a barrier that rays must pass through to reach the earth's surface. If the ozone layer is thick, the more protection it gives us from the sun's rays. If the ozone layer is thin, or has holes in it, then there is less protection from these ultraviolet rays.

There is good and bad ozone. The ozone that remains up high in the atmosphere and creates the layer that shields us is good ozone. Ozone that falls to the earth is bad ozone. Ozone that falls to the earth causes smog and smog is unhealthy.

Many years ago, scientists discovered that chemicals people were using in air conditioning, refrigerators, and spray cans were destroying the ozone layer. These chemicals are called CFCs (chlorofluorocarbons). By the 1980s, scientists had actually found a hole in the ozone layer that they believe had been caused by these chemicals.

Ask students what they think the consequences of a hole in the ozone layer might be?

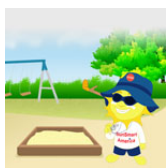
See Black Line Master 2 “The Ozone Hole”; create transparency

Explain:

A hole in the ozone layer, and thinning of the layer, means that the sun's burning rays are stronger as they hit the earth because there is less of a barrier to weaken them. A barrier is a shield or filter.

There are three kinds of ultraviolet rays: UVA, UVB, and UVC.

Ultraviolet rays do not give off heat or light.



UVA

UVA rays are the longest rays and have the ability to do lasting damage to the skin. They are responsible for making skin wrinkle and age more quickly. UVA rays can also damage eyes and the immune system. The immune system protects our bodies from getting sick. It can also cause skin cancer. UVA rays are not absorbed by the ozone layer.

UVB

UVB rays are shorter wavelength rays. UVB rays are partially absorbed by the ozone layer but some still come through normally. UVB rays affect the Epidermis (top layer of skin). UVB rays are responsible for burning our skin if we don't protect it and skin cancer.

UVC

UVC rays are even of shorter wavelength and are totally absorbed by the ozone layer. Without an ozone barrier, powerful rays from the sun continually beating down can create problems for the earth and its inhabitants such as:

1. **An increase in skin cancer** caused by overexposure to the sun and sunburns.
2. **A break in the food chain** if too much unfiltered and powerful sunshine causes living creatures in the sea to die and produce fewer fish.
3. **A decrease in plant production** if the rays become too strong.

Can the ozone layer repair itself? Yes, the ozone layer can repair itself over time if it is properly cared for and not damaged further. Meanwhile, if the sun's rays become stronger due to a decrease in the ozone, it becomes more and more important for everyone to be sun smart and protect their skin from sun damage.

Classroom Activities

Activity 1: Persuading the Polluters

Type of Activity: independent

Type of Skill: communications

Learning Style: linguistic

Materials Needed: Black Line Masters for "The Atmosphere" and "The Ozone Hole"

This writing activity can be used as a FCAT expository exercise.

You have been selected to represent your country at a global meeting on the environment. Your country is very concerned about the **depletion** of the ozone layer. There are some countries present that are not so concerned about depletion. They are doing so little to stop people in their countries from using pollutants that destroy the layer. Before you begin to write, think about the importance of preserving the ozone layer. Now explain ways the countries can preserve the ozone layer. (Provide each student with a sheet of paper on which to write their essay.)

Activity 2: Ozone Research (This activity may be used for extra credit since not all students have access to computers.)

Type of Activity: independent/group

Type of Skill: research; reporting; charting

Learning Style: linguistic

Materials Needed: internet or traditional library resources; attached worksheet entitled "Ozone Research"



Integrated Lessons for Elementary School Classes

Have the students investigate the many consequences of damage to the ozone layer and what is being done here and around the world, or what can be done, to preserve our ozone layer. They can use the internet or resources in the school library. Have the students present their findings to the class in the form of oral presentations, using charts where possible. Have students utilize the attached "Ozone Research" worksheet to help guide them.



Grade 4, Lesson 1, Activity 2

Name _____

Ozone Research

Internet sites

Example: Go to www.aol.com . Then type in aol@school, select elementary, type in ozone layer, and click on EPA Sunwise program .

List other sites:

List other references:



Answer the following questions.

1. What everyday products are destroying the ozone layer?
2. How might the climate change if there is damage to the ozone layer?
3. What might happen to people if there is damage to the ozone layer?
4. What might happen to plants?

To fish?

To animals?



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Integrated Lessons for Elementary School Classes

Home Activity

Activity: Save the Ozone Layer; Save Our Health

Type of Activity: adult-child

Type of Skill: synthesis; communication

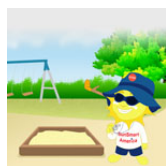
Learning Style: spatial

Materials Needed: Home Activity sheet entitled "Take Action! Save Our Ozone; Save Our Health"

Make copies of the attached sheet entitled "Take Action! Save Our Ozone; Save Our Health", one for each student. The activity offers families an opportunity to synthesize what they learned about the ozone layer. Have students return their work to school when completed for a class discussion.

Review and Post-Assessment

Have students create a cartoon that illustrates the dangers that could result from the depletion of the ozone layer.



Grade 4, Lesson 1
Home Activity 1

Name _____

**TAKE ACTION! SAVE THE OZONE LAYER;
SAVE OUR HEALTH**

An Adult-Child Activity

Dear Parent or Guardian: Your child has been studying about the ozone layer and how it keeps the earth and us protected from too much radiation from the sun. One of the dangers of a thinning ozone layer is increased risk of sunburn and sun overexposure. Just as the ozone layer protects us, we too must help to protect it. Below is a list of activities families can take to help protect the ozone. Please review with your child what your family is doing to help save the ozone layer so that your family can stay protected from dangerous UV rays from the sun. Complete the survey below and discuss as a family what is presently being done and discuss actions as a family that you will do in the future.

LET'S TAKE ACTION:

	CIRCLE		
	Never	Sometimes	Always
Do you use paper plates?	x	x	x
Do you use paper cups for everyday?	x	x	x
Do you recycle aluminum cans?	x	x	x
Do you recycle glass bottles?	x	x	x
Do you recycle newspapers?	x	x	x
Do you recycle mail?	x	x	x
Do you use aerosol sprays?	x	x	x
Do you use styrofoam?	x	x	x
Use of unleaded gasoline?	x	x	x
Other? _____			

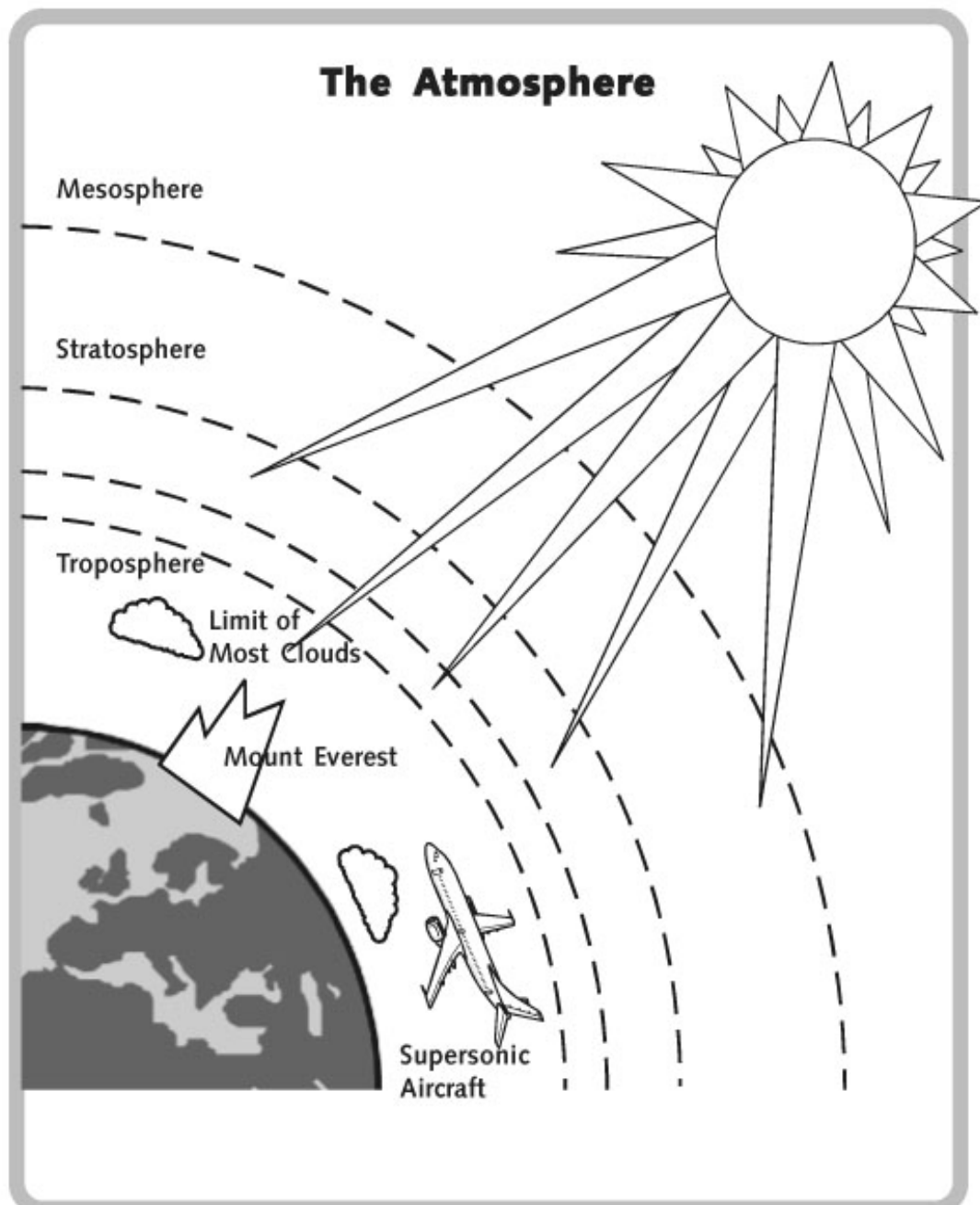


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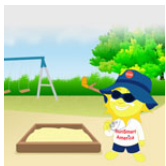


Grade 4, Lesson 1

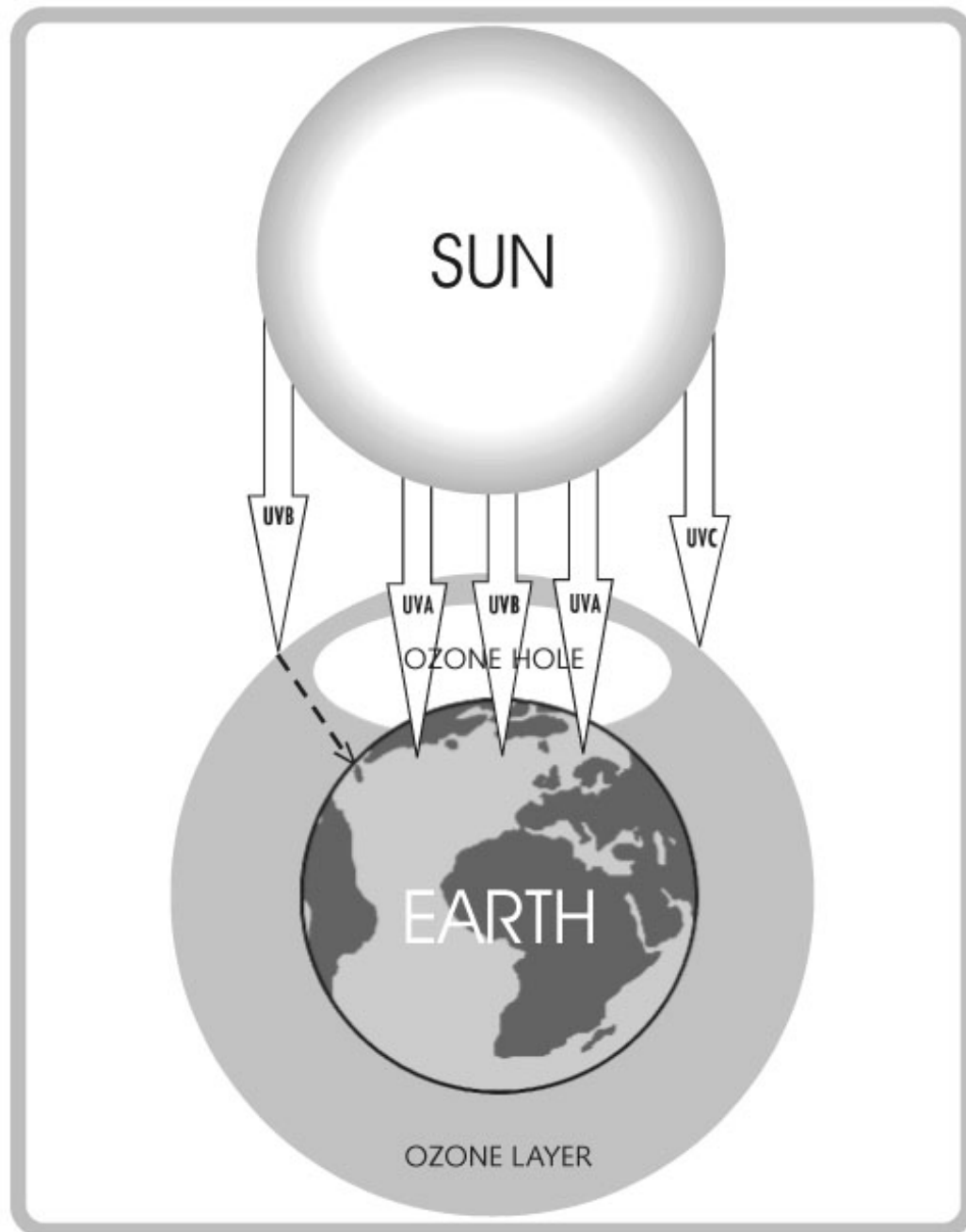
Black Line Master 1



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Grade 4, Lesson 1
Black Line Master 2



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SunSmart America
It Pays to Stay Out of the Rays

Grade 4

Lesson 2: Ultraviolet Rays, UV Index and Sun Protection

Benchmark Correlation: SC.C.1.2.2; SC.G.2.2.1; HE.A.1.2.2, 1.2.5; HE.B.1.2.1,1,2,4; HE.C.2.2.1,2.2.6; LA.C.1.2.1; LA.C.3.2.4,3.2.5

Objective: Students will be able to tell a friend and an adult the importance of protecting against UVA and UVB rays; students will be able to explain the Sun Safety Rules.

Learning Objective:

Students will be able to:

Differentiate the damage from Ultraviolet A rays versus Ultraviolet B rays

Define and discuss the UV Index

Tell a friend and an adult how to utilize the UV Index when making outside plans

Explain the *SunSmart America* Rules

Pre-Assessment

Which ultraviolet rays are responsible for sunburn? (*UVB*)

Which ultraviolet rays are responsible for eye damage? (*UVA*)

Which ultraviolet rays are filtered by the ozone layer? (*UVB*)

Note to Teacher: Distribute and discuss EPA Handout "What is the UV Index", found in the Parent Open House Handouts section located in the back of the curriculum.

Discussion

Review:

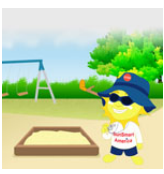
There are three types of ultraviolet rays: UVA, UVB, and UVC. UVA and UVB are the two you need to be concerned about. UVA rays can wrinkle skin and cause people to look much older than they really are. UVA rays can damage your **eyes** and damage your **immune system**. The immune system is the part of your body that fights off germs and infections. Your immune system is made up mostly of your white blood cells. UVA rays penetrate your body much deeper than UVB. And UVA rays can wrinkle your skin and cause people to look much older than they really are.

UVB rays can burn your **skin**. UVB rays are responsible for all the problems associated with sunburns. UVB rays can cause skin cancer.

Explain:

The UV Index provides a daily forecast of UV radiation. Its purpose is to help us plan outdoor activities and dress accordingly so that skin cancer can be prevented. The UV Index ranges from 1 to 15. (*The Index actually can go as high as 15.*) It tells us the amount of ultraviolet radiation reaching the earth's surface over a one-hour period around 12:00 noon, when the sun is strongest. The Index has a low number reading when the sun is low in the sky, and on cloudy days. It has a high number reading when the sun is high in the sky, and on clear or partly cloudy days. (Note: you can still get a severe sunburn on a cloudy day; the UV rays come through even if you can't see the sun.)

Ask students to brainstorm different ways to protect one's body from UV rays. List all student responses on chart paper to hang in the classroom.



Explain: There are *SunSmart America* Rules to follow to protect your skin from sun damage:

1. Play in the shade, especially between the hours of 10:00 a.m. and 4:00 p.m. Be aware that some surfaces like snow, sand and water reflect UV rays.
2. Cover up. Wear hats and long sleeve shirts and long pants when possible. Make sure your hat is wide-brimmed so that it protects your face, your ears, and your neck.
3. Protect your eyes: Wear sunglasses that are marked UV sensitive.
4. Use sunscreen and lip balm with an SPF of 30-50+ all day, every day, and on every part of your skin that is not covered by clothing. Reapply sunscreen and lip balm after you go swimming and towel dry, after you have been running around a lot and sweating, and/or after two hours of sun exposure.
5. Warn your older sister or brother (even your parents) to stay away from tanning salons. Tanning salons can hurt your skin and your immune system.

Have students copy rules on paper.

Classroom Activities

Activity 1: SunSmart Scenarios

Type of Activity: small group

Type of Skill: role play

Learning Style: linguistic

Materials Needed: video camera, if available

Have students role play situations in which they might be faced with a SunSmart decision to make. If a video camera is available, tape the role plays and discuss the ways in which the problems were solved. If there is no camera available, hold discussions following each role play.

Try the following situations or have students create their own.

1. You are visiting friends who take you to the beach unexpectedly and no one has sunscreen.
2. Your friends laugh at you because you are wearing a long sleeve shirt and it's 90-degrees outside.
3. Ask your parent to buy you sunglasses that have UV protection.
4. You went to check the UV Index before you decide on what you and your friend plan to do. Your friend starts to laugh. Tell your friend the health risks which occur from UVA and UVB rays.

The next activity may be done with the art teacher.

Activity 2: It's Cool to Cover Up

Type of Activity: independent or small group

Type of Skill: communication; synthesis

Learning Style: spatial

Materials Needed: art supplies



Integrated Lessons for Elementary School Classes

Have students paint giant posters with the message “It’s Cool to Cover Up”. Posters should show people wearing broad-brimmed hats, sunglasses, long-sleeved shirts and long pants. Display the posters throughout the school, if the principal permits.

Activity 3: UV Index Readings in South Florida

Type of Activity: independent

Type of Skill: graphing

Learning Style: math/logical

Materials Needed: graph or plain paper, ruler

Write the following information on the board. It indicates the average UV readings each month in South Florida. Then have students create a line graph showing the information.

Month	Average UV Reading in South Florida
January	5.5
February	7.0
March	9.0
April	12.0
May	12.5
June	14.0
July	11.5
August	11.5
September	10.0
October	8.5
November	6.0
December	5.0

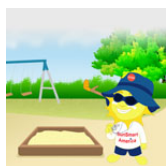
Activity 4: Reduce the Risk; A Word Cryptogram

Type of Activity: independent

Type of Skill: recall

Learning Style: linguistic

Materials Needed: copies of the Reduce the Risk worksheet



Grade 4, Lesson 2
Activity 4

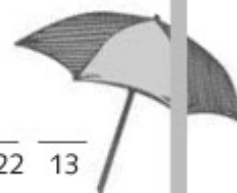


REDUCE THE RISK

DIRECTIONS: COMPLETE THE FOLLOWING CRYPTOGRAM PUZZLE.

A B C D E F G H I J K L M N O
26 25 24 23 22 21 20 19 18 17 16 15 14 13 12

P Q R S T U V W X Y Z
11 10 9 8 7 6 5 4 3 2 1



1. $\frac{\quad}{6} \quad \frac{\quad}{8} \quad \frac{\quad}{22} \quad \frac{\quad}{8} \quad \frac{\quad}{6} \quad \frac{\quad}{13} \quad \frac{\quad}{8} \quad \frac{\quad}{24} \quad \frac{\quad}{9} \quad \frac{\quad}{22} \quad \frac{\quad}{22} \quad \frac{\quad}{13}$
 $\frac{\quad}{22} \quad \frac{\quad}{5} \quad \frac{\quad}{22} \quad \frac{\quad}{9} \quad \frac{\quad}{2} \quad \frac{\quad}{23} \quad \frac{\quad}{26} \quad \frac{\quad}{2}$
2. $\frac{\quad}{15} \quad \frac{\quad}{12} \quad \frac{\quad}{12} \quad \frac{\quad}{16} \quad \frac{\quad}{21} \quad \frac{\quad}{12} \quad \frac{\quad}{9} \quad \frac{\quad}{8} \quad \frac{\quad}{19} \quad \frac{\quad}{26} \quad \frac{\quad}{23} \quad \frac{\quad}{22}$
3. $\frac{\quad}{4} \quad \frac{\quad}{22} \quad \frac{\quad}{26} \quad \frac{\quad}{9} \quad \frac{\quad}{26} \quad \frac{\quad}{4} \quad \frac{\quad}{18} \quad \frac{\quad}{23} \quad \frac{\quad}{22} \quad \frac{\quad}{25} \quad \frac{\quad}{9} \quad \frac{\quad}{18} \quad \frac{\quad}{14}$
 $\frac{\quad}{19} \quad \frac{\quad}{26} \quad \frac{\quad}{7}$
4. $\frac{\quad}{4} \quad \frac{\quad}{22} \quad \frac{\quad}{26} \quad \frac{\quad}{9} \quad \frac{\quad}{8} \quad \frac{\quad}{6} \quad \frac{\quad}{13} \quad \frac{\quad}{20} \quad \frac{\quad}{15} \quad \frac{\quad}{26} \quad \frac{\quad}{8} \quad \frac{\quad}{8} \quad \frac{\quad}{22} \quad \frac{\quad}{8}$
5. $\frac{\quad}{24} \quad \frac{\quad}{19} \quad \frac{\quad}{22} \quad \frac{\quad}{24} \quad \frac{\quad}{16} \quad \frac{\quad}{7} \quad \frac{\quad}{19} \quad \frac{\quad}{22} \quad \frac{\quad}{6} \quad \frac{\quad}{5} \quad \frac{\quad}{18} \quad \frac{\quad}{13} \quad \frac{\quad}{23} \quad \frac{\quad}{22} \quad \frac{\quad}{3}$
 $\frac{\quad}{25} \quad \frac{\quad}{22} \quad \frac{\quad}{8} \quad \frac{\quad}{6} \quad \frac{\quad}{13} \quad \frac{\quad}{8} \quad \frac{\quad}{14} \quad \frac{\quad}{26} \quad \frac{\quad}{9} \quad \frac{\quad}{7}$

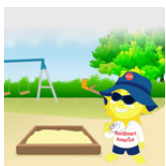
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Activity 4
Grade 4
Lesson 2

Reduce The Risk Cryptogram
Answer Key

1. USE SUNSCREEN EVERYDAY
2. LOOK FOR SHADE
3. WEAR A WIDE-BRIM HAT
4. CHECK THE UV INDEX
5. BE SUN SMART!



Integrated Lessons for Elementary School Classes

Home Activity

Activity: Time for Fun

Type of Activity: adult-child

Type of Skill: communication

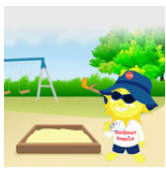
Learning Style: linguistic

Materials Needed: attached Take Home activity sheet entitled "Time for Fun"

Make one copy for each student of the adult-child parent worksheet entitled "Time for Fun." The activity is designed to be sent home and completed with an adult. The objective of the activity is to offer students a clear understanding of the times of day when direct sun exposure is most dangerous to their health.

Review and Post-Assessment

You and your older brother are going fishing down at the lake. It's 1:00 in the afternoon. Other than your fishing poles, what do you need to bring?



Grade 4, Lesson 2
Home Activity

Name _____

TIME FOR FUN-The Weekend is Here!
An Adult-Child Activity



Dear Parent or Guardian:

Your child has been studying about UVA and UVB rays. Both of these types of sun rays can be very dangerous to our health if we do not protect ourselves, especially between the hours of 10:00 a.m. and 4:00 p.m. Have your child explain to you the difference between UVA and UVB rays and why each type can be dangerous to your health. Have your child discuss with you the different things that can be done to protect ourselves from these rays. Then work with your child to complete the following activity to help plan for the weekend.

Check UV reading on-line at weather.com or in the newspaper.

Date _____ UV reading _____

Saturday Schedule



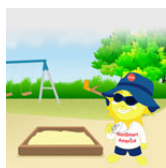
Baseball game 8:00 am
Food shopping
Family barbeque at the beach

1:00 pm Pool Party
Walk the dog
Bicycle ride for one hour

WEEKEND CALENDAR

TIME	ACTIVITY	CLOTHES	EQUIPMENT	SUPPLIES

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SunSmart America
It Pays to Stay Out of the Rays

Grade 4

Lesson 3: The UV Index

Benchmark Correlation: SC.B.1.2.3; SC.E.1.2.1; SC.H.2.2.1; SC.H.3.2.4; HE.A.1.2.2, 1.2.5; HE.B.1.2.2, HE.C.1.2.1; HE.C.2.2.6; MA.C.3.2.2; MA.D.1.2.1, 2.2.2

Objective: Students will practice reading the UV Index and plan outdoor activities and how to dress accordingly.

Learning Objective:

Students will:

Identify what factors affect the UV index.

Utilize the UV index when planning outdoor activities

Pre-Assessment

Ask:

If the UV Index is 2, is it safe to play outside in the sun without worrying about sunburn? (*No. No matter what the UV Index is there is a chance of sunburn.*)

If the UV Index is 8, is it safe to play outside in the sun without worrying about sunburn? (*No. 8 is high on the UV scale.*)

If the UV Index is 3, do you think it is very sunny? (*No, but you can still burn.*)

If the UV Index is 10, do you think it is very cloudy? (*No, but even if it were cloudy, the sun's rays come through the clouds, causing overexposure to UV rays and burning.*)

Note to teacher: If not done previously, copy and distribute the EPA Handout "What is the UV Index" found in the Parent Open House Handouts which are located in the back of the curriculum.

Discussion

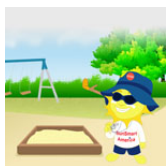
Review:

The UV Index was developed by the National Weather Service and the Environmental Protection Agency (EPA). It provides a forecast of the UV radiation and the expected risk of overexposure to the sun. The purpose of the index is to help us plan for outdoor activities and to dress accordingly. The UV Index number ranges from 1 to 15. It tells us the amount of ultraviolet radiation reaching the earth's surface over a one-hour period around 12:00 noon, when the sun is strongest. The Index has a low number reading when the sun is low in the sky, and on cloudy days. It has a high number reading when the sun is high in the sky, and on clear or partly cloudy days. (Note: you can still get a severe sunburn on a cloudy day; the UV rays come through even if you can't see the sun.)

Explain:

The UV levels are influenced by several factors:

1. **Ozone Layer-** The ozone layer is located in the stratosphere layer of the atmosphere. The purpose of the ozone layer is to act as the earth's sunscreen. It absorbs most of the sun's harmful UV rays. Naturally the ozone layer gets thinner the closer we get to the equator. This correlates directly to increased intensity of the sun in those areas. However, due to pollution Chlorofluorocarbons (CFC) have been destroying the ozone layer which has made the ozone layer thinner and in Antarctica there is an actual hole in the layer. This means that more and more harmful rays are coming to earth which in return has increased the rate of skin cancer and other diseases.



2. **Time of Day-** The sun rays are strongest when the sun is highest in the sky. This means that the sun's rays are strongest at 12 noon since the sun's rays have the least distances to travel through the atmosphere. UVB rays are the strongest at that time. In the early morning and late afternoon the rays have a greater distance to travel so the rays are not as intense. (Review the Shadow Rule. When your shadow is smaller than you are, seek shade. When your shadow is larger than you are in early morning and late afternoon, it is not as important.)
3. **Time of Year-** Ultraviolet rays are the strongest in the summer. The rotation of the earth and the angle will affect the light, heat and intensity of the rays. This change is what provides us with the different seasons.
4. **Latitude-** The rays of the sun are strongest at the equator since the rays are directly overhead and they have the least distance to travel to reach the earth. Ozone is naturally thinner at the equator. At the higher latitudes such as New York and Moscow, the sun is lower in the sky and the ozone layer is naturally thicker. Therefore, UV rays have a greater distance to travel to reach the earth surface, hence the rays are not as strong.
5. **Altitude-** UV rays are stronger with increasing altitudes since there is less atmosphere to absorb the rays. (For example: skiing on a mountain)
6. **Weather Conditions-** Clouds will reduce the intensity of the ultraviolet rays but it will not totally block them. You can get sunburned on a cloudy day.

Classroom Activities

Activity 1: Using the UV Index

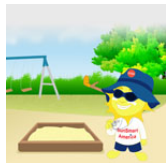
Type of Activity: class

Type of Skill: discussion

Learning Style: linguistic; math/logical

Materials Needed: EPA UV Index handout, attached handout called "UV Index: Risk and Protective Factors"

Make copies of the attached activity sheet entitled "UV Index: Risk and Protective Factors", one for each student. The sheet gives information about risks and precautions that should be taken depending on the level indicated in the UV Index. Review the worksheet carefully with the class.



Grade 4, Lesson 3
Activity 1

Name _____

UV Index: Risk and Protective Factors

UV INDEX	RISK	PRECAUTIONS
0-2	minimal	Limit sun exposure between 10 am and 4 pm to one hour to avoid burning.
3-4	low	People with fair skin may burn in less than 20 minutes without protection. Wear a hat with a wide brim and sunglasses. Use a sunscreen with an SPF of at least 15, and cover up with long sleeves and pants.
5-6	moderate	Use sunscreen. Be sure to protect sensitive areas like the nose and ears. Use lip balm containing sunscreen. Use sunglasses to protect the eyes.
7-9	high	Avoid sun during the midday hours (10 am - 4 pm). Use sunscreen and lip balm. Seek shade and don't forget that reflective surfaces, like water, sand or cement can cause burning even in the shade. Cover up with clothes made of tightly woven fabric to block UV rays.
10+	very high	Burn may occur in fair-skinned people in less than 5 minutes. Apply sunscreen liberally every 2 hours. Avoid being in the sun as much as possible. Wear sunglasses that block 99 - 100% of all UV rays. Wear a wide-brimmed hat. Cover up exposed areas of the body with clothes made of tightly woven fabric.

Answer the following questions:

1.If the UV Index is 8, are you at high risk for tanning or getting a sunburn?

2.If the UV Index is 6, at what time should you go to the park and play baseball?

3.If the UV Index is 2, how long can you stay in the sun before you might get a sunburn?

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Activity 1
Grade 4
Lesson 3

UV Index: Risk and Protective Factors
Answer Key

Name _____

Answer the following questions:

1. If the UV Index is 8, are you at high risk for tanning or getting a sunburn?

Yes

2. If the UV Index is 6, at what time should you go to the park and play baseball?

Before 10 AM or after 4 PM to be safe

3. If the UV Index is 2, how long can you stay in the sun before you might get a sunburn?

One hour



Integrated Lessons for Elementary School Classes

Activity 2: Prove It Yourself

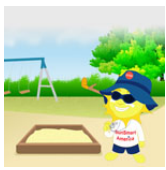
Type of Activity: class

Type of Skill: recording

Learning Style: kinesthetic; math

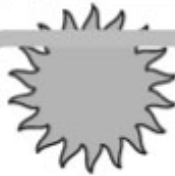
Materials Needed: thermometer, daily newspaper, attached "Weather Watch" Handout

Have the class take turns monitoring and recording the temperature twice during day for a week. Place the thermometer where it will be in full sunlight all day. Take readings at 8:00 a.m. and lunch time (noon) readings. Have the students check the UV Index for each day and record. Describe the weather as to cloud cover. Record all information on chart. Discuss findings.



Grade 4, Lesson 3
Activity 2

Name _____



Weather Watch



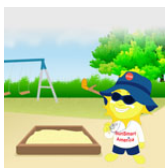
DIRECTIONS

Utilize the newspaper and record the UV level for each day. Record the temperature at 8 am and at 12 noon. Describe the weather as to whether it is sunny, cloudy, or raining.

Day	UV Level Newspaper	Temperature		Weather	
		AM	PM	AM	PM
Day 1					
Day 2					
Day 3					
Day 4					
Day 5					
Day 6					
Day 7					

Report what you find out:

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Integrated Lessons for Elementary School Classes

Home Activity

Activity: Risk and Protective

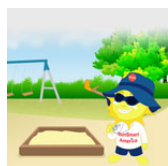
Type of Activity: adult-child

Materials Needed: Home Activity sheet entitled "UV Index: Risk and Protective Factors"

Make copies of the activity sheet entitled "UV Index: Risk and Protective Factors", one for each student. The sheet gives information about risks and precautions that should be taken depending on the level indicated in the UV Index. It also provides information about the different skin types. The objective of this activity is to use their knowledge practically along with a daily UV Index reading found in the local newspaper, on TV, or on the Internet.

Review and Post-Assessment

You are getting ready to go outside and play. You check the UV Index. It is an 8. How will you get dressed?



Grade 4, Lesson 3
Take Home Activity

Page 1 of 2

Name _____

UV INDEX
An Adult-Child Activity



Dear Parent or Guardian:

Your child has been studying the risk and protective factors associated with the UV Index. The UV Index tells us how much UV radiation will reach the earth each day. It is printed in the local newspaper, can be seen on the Weather Channel, or can be found on the Internet at www.weather.com. Review the risk and protective factors with your child. A list of skin types is also provided. Please help your child discover his/her skin type. Then, locate the Index for today and have your child write a short paragraph indicating today's sun exposure risk and what precautions he/she should take according to that risk.

Risk and Protective Factors



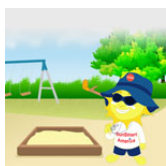
SKIN TYPES

TYPE 1	Very fair skin color, always burns easily, never tans, red hair, freckles*
TYPE 2	Fair skin, light eyes, burns easily, tans minimally
TYPE 3	Light skin, Caucasian, burns moderately, tans eventually
TYPE 4	Medium skin color, Caucasian, burns minimally, always tans
TYPE 5	Dark skin color, rarely burns, tans readily**
TYPE 6	Very dark/black skin color, never burns, becomes deeply pigmented**

*Those most susceptible to sunburn are very fair skin, red or blonde hair, rarely tan, burns easily.

**Those least susceptible to sunburn are olive to dark complexion, dark brown/black hair, tan easily.

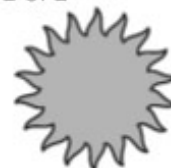
Richard David Kann Melanoma Foundation, West Palm Beach, Florida 561-687-2400 www.melanomafoundation.com



Grade 4, Lesson 3
Take Home Activity

Page 2 of 2

Name _____

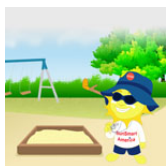


UV Index: Risk and Protective Factors

UV INDEX	RISK	PRECAUTIONS
0-2	minimal	Limit sun exposure between 10 am and 4 pm to one hour to avoid burning.
3-4	low	People with fair skin may burn in less than 20 minutes without protection. Wear a hat with a wide brim and sunglasses. Use a sunscreen with an SPF of at least 15, and cover up with long sleeves and pants.
5-6	moderate	Use sunscreen. Be sure to protect sensitive areas like the nose and ears. Use lip balm containing sunscreen. Use sunglasses to protect the eyes.
7-9	high	Avoid sun during the midday hours (10 am - 4 pm). Use sunscreen and lip balm. Seek shade and don't forget that reflective surfaces, like water, sand or cement can cause burning even in the shade. Cover up with clothes made of tightly woven fabric to block UV rays.
10+	very high	Burn may occur in fair-skinned people in less than 5 minutes. Apply sunscreen liberally every 2 hours. Avoid being in the sun as much as possible. Wear sunglasses that block 99 - 100% of all UV rays. Wear a wide-brimmed hat. Cover up exposed areas of the body with clothes made of tightly woven fabric.



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SunSmart America
It Pays to Stay Out of the Rays

Grade 4

Lesson 4: A SunSmart Leader

Benchmark Correlation: SC.F.1.2.1; SC.F.1.2.4; HE.A.1.2.2, 1.2.5,1.2.7; HE.B.1.2.4,2.2.2; HE.C.2.2.1,2.2.4;
LA.B.2.2.5; LA.C.1.2.3,1.2.5; LA.C.3.2.1,3.2.2

Objective: Students will discover how to be leaders in the fight against skin damage from the sun; they will discuss with their parents the importance of checking all their skin from head to toe.

Learning Objective:

Students will:

Discover how to be leaders in the fight against skin damage from the sun.

Discuss with their parents the importance of checking all their skin from head to toe.

Pre-Assessment

Have students describe the qualities of a leader.

Ask students what they could do to be a SunSmart leader.

Discussion

Explain:

Too much sun can cause **premature aging**. Premature means that something happens before it should. Premature aging is when a person looks older than his or her actual age. And because the sun can cause wrinkles and leathery-looking skin, people who sit in the sun often, usually age prematurely. That is why it is important to be sun smart starting when you are very young, because your skin remembers sun damage year after year, beginning when you are very young. By the time you get to be an adult, your skin will show the consequences of too much sun when you were young.

Too much sun can cause **freckles**. Freckles are a sign of sun damage. The less you expose your skin to the sun, the less freckles you will have.

Too much sun can cause **skin cancer**. There are three different kinds of skin cancer: **basal cell**, **squamous cell**, and **melanoma**. Prevention and early detection can greatly decrease the risk of these cancers. That means if you take care of your skin now, chances are you will prevent getting sick later in life. And if you notice that a friend or relative has a weird looking mark or spot on their skin, ask them to go to the dermatologist (skin doctor) to check it out as soon as possible. That's early detection.

Emphasize to students that children usually do not get skin cancer but that sunburns gotten early in life can lead to skin illnesses in adulthood. That is why protecting skin now, prevents sickness later.

Review the following *SunSmart America* Rules with the class:

Stay in the shade between the hours of 10:00 a.m. and 4:00 p.m.

Wear a wide-brimmed hat

Wear sunglasses

Wear protective clothing

Use sunscreen and lip balm of SPF 30-50+



Classroom Activities

Activity 1: Follow the Leader

Type of Activity: group

Type of Skill: goal setting

Learning Style: linguistic; logical

Materials Needed: goal setting steps

Write the word **leader** on the board. Explain to the students that leaders have plans. And they have **goals**. And they can convince other people to work with them to reach those goals. That means they know how to **talk and listen** to other people.

Divide students into groups. Each group is to take a leadership role in the fight against skin damage from the sun. Each group will be given a specific goal. The group is to come up with a plan that will help convince their peers to be sun smart. The following goal setting steps will help them create the plan. Write the steps on the board and have each group copy them to share. Then have them present their plan to the class. (Note: sample answers follow each step. If time permits, have students put their goals into action.)

Teach the students the following Goal Setting Steps:

1. **Identify the goal.** (to spread the SunSmart message to peers)
2. **Identify the action steps needed to reach the goal—to get from where you are now to where you want to be.** (create posters for the halls, talk to friends about the importance of being sun smart and the *SunSmart America* Rules, make a presentation on the morning news, be a role model and follow the *SunSmart America* Rules, etc.)
3. **Identify who can help you reach your goal(s).** (teacher, other students)
4. **When will you start your plan.** (today)
5. **When will you finish your plan.** (one week)

Home Activity

Activity: Early Detection

Type of Activity: adult-child

Type of Skill: evaluation

Learning Style: kinesthetic

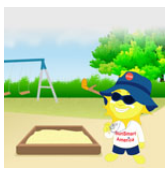
Materials Needed: attached Take Home activity sheet entitled "Your Self-Exam"

Make copies of the attached Take Home activity sheet entitled "Your Self-Exam", one for each student. The activity is designed to teach parents and their children how to check their skin for changes.

Review and Post-Assessment

Have the students write a persuasive essay convincing a friend to be sun smart.

Your friend goes fishing with her family every weekend. You notice that she has been coming to school very red or darker each Monday. You ask your friend if she protects herself from the sun. She tells you that she never uses sunscreen. It is your job to persuade her to use skin protection.



Grade 4, Lesson 4 Take Home Activity

YOUR SKIN SELF-EXAM An Adult-Child Activity

Dear Parent or Guardian:

Your child has been learning about all the health risks associated with skin damaged from the sun and how to be an advocate for Sun Safety and skin cancer prevention. An important part of sun safety is protection—wearing a wide brimmed hat, sunscreen, tightly-woven protective clothing, sunglasses, and seeking out shaded areas. Another important part of sun safety is early detection of a skin problem. Attached you will find a chart describing the three different skin cancers, the most deadly being melanoma. The chart provides general descriptions of skin cancer however, any new or changes in existing spots, freckles or moles should be checked by a dermatologist. In addition to seeing a dermatologist for a full body screening on a regular basis beginning in the teen years, use the guidelines below to teach your child about early detection and as a guide for the entire family. Most skin cancers can be cured if discovered early.

The best time to do this simple monthly exam is after a bath or shower. Use a full-length and a hand mirror so you can check any moles, blemishes, spots or birthmarks from the top of your head to your toes, noting anything new or different, a change in size, shape or color, or a sore that does not heal.

1. Examine your body front and back in the mirror, then right and left sides, arms raised.

2. Bend elbows and look carefully at forearms and upper under-arms *and* palms.



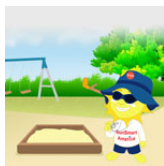
3. Sit, if that is more comfortable, to look at backs of the legs, feet—spaces between toes *and* soles.



4. Examine back of neck and scalp with the help of a hand mirror, part hair (or use blow dryer) to lift it and give you a close look.

If you do the exam regularly, you will know what is normal for you and can feel confident. Remember the ABCDs and check with your dermatologist or clinic if you find something unusual or a spot, freckle or mole that is new or changed.

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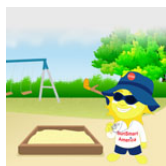
Grade 4, Lesson 2 Take Home Activity

Types of Skin Cancer

Facts and Figures 2000 (The American Cancer Society)
In the year 2000, there were 1,347,700 cases of skin cancer diagnosed in the US.

Type of cancer	Occurrence rate	Age of onset	Characteristics	Description
Basal Cell	80% of all skin cancers	Adult to late adult	- Slow to develop - Generally does not spread - If you have one it is likely to develop a second - Early detection generally means cure - Very preventable if follow sun safety rules	- Open sore that does not heal. - A shiny bump or a reddish patch.
Squamous Cell Carcinoma	15% of skin cancers	Adult and older	- Occurs on ears, neck, lips, and face. - Over exposure of the suns burning rays - Usually does not spread to other parts of the body but can if untreated it can kill you.. - If not treated area will gets larger - Very curable if early detection - Very preventable if follow sun safety rules	- Dry scaly patch. - Elevated growth - A wart-like growth - An open sore which bleeds or crusts
Melanoma	5% of all skin cancers	Young adult and over. After puberty.	- Deadly form of skin cancer - History of sun burning and blistering - Usually occurs over a freckle or mole. - Can occur anywhere on the body not just over areas exposed to the sun - Can spread to other parts of the body - Prevention and early detection saves lives	Mole or Freckle A Asymmetry B Borders C Color D Diameter

**For actual pictures of skin cancer go to www.aad.org or www.skincheck.com



Richard David Kann Melanoma Foundation

Dear Parents and Grandparents-

We are pleased to provide you with the following information on being sun smart.

Our goal is to encourage young people and families to protect themselves from melanoma and other skin cancers by **playing it safe in the sun!**

Skin cancer affects over 1 million people each year in the United States. Melanoma-the deadliest form of skin cancer- affects more than 50,000 people each year and kills more than 10,000. ***Skin cancer does not discriminate. Although people with lighter skin are more at risk, all races, colors and nationalities can and do get skin cancer!***

Protect yourself and your family by following these simple SUNSMART rules:

1. Always **wear sunblock**- with at least an SPF (sun protection factor) of 30-50+ .
Reapply sun block frequently- particularly after swimming, sweating or any outdoor activity.
2. **Wear a wide-brimmed hat.**
3. Protect your eyes from getting damaged, **wear Sunglasses**
4. **Wear protective clothing** including a long-sleeved shirt and pants.
5. **Reduce exposure** to the sun during peak hours- 10 a.m. to 4 a.m.

Don't burn!

Remember that even when it's cloudy, you can burn!

Get to know your skin and that of your family. Look for any new or unusual marks such as moles or freckles and **be aware of any changes over time.**

Schedule regular dermatological check-ups.

Remember: take good care of your skin and teach your children to do the same. "Know the Skin You're In." It's worth it!

In good health,

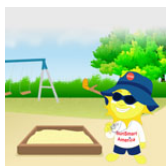
Richard David Kann Melanoma Foundation

Call us with your SunSmart questions!

Phone: (561) 655-9655 Fax: (561) 655-9650

2751 South Dixie Highway Suite 2A, West Palm Beach, FL 33405

E-mail: info@melanomafoundation.com Website: melanomafoundation.com



Richard David Kann Melanoma Foundation

Important Points to Remember

Skin cancer, the most common type of cancer, is increasing at an alarming rate.

Melanoma is the most serious type of skin cancer and can be deadly.

One person every hour dies from melanoma.

The incidence is increasing faster than any other cancer.

1 million people will develop skin cancer each year; more than 50,000 will develop melanoma.

Best treatment is *PREVENTION!*

Sunscreens are essential!

Always wear sunscreen with SPF (Sun Protection Factor) 30-50+.

Protect your lips and eyes.

Wear sunscreen with both UVA/UVB protection.

Clothing is great protection.

Wide brim hats to protect your face, ears & neck.

Sunglasses with both UVA/UVB protection.

Long sleeve shirts and pants.

Special fabrics with sun protection factor rating.

A Tan is Not Healthy. It is a sign of skin damage and could lead to skin cancer.

A Single Sunburn Increases Your Chances of Getting Skin Cancer.

Early Detection means CURE:

ABCDE characteristics of Melanoma Detection.

(moles or any spot on the skin)

Asymmetry: one half unlike the other half.

Border irregularity: scalloped or poorly circumscribed border.

Color Variation: from one area to another; shades of tan and brown; black; sometimes white, red or blue.

Diameter: >6 mm (diameter of a pencil eraser).

Enlargement: change in thickness.

Most important: Check your skin and beware of any changes!

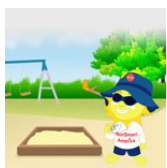
CONSULT A DERMATOLOGIST REGARDING ANY NEW OR CHANGES IN EXISTING MOLES, SPOTS OR FRECKLES.

Call us with your SunSmart questions!

Phone: (561) 655-9655 Fax: (561) 655-9650

2751 South Dixie Highway Suite 2A, West Palm Beach, FL 33405

E-mail: info@melanomafoundation.com Website: melanomafoundation.com



SunSmart / Skin Cancer Education Resources

Richard David Kann Melanoma Foundation

2751 South Dixie Highway, Suite 2A,
West Palm Beach, FL 33405
Telephone: 561-655-9655
Facsimile: 561-655-9650
<http://www.melanomafoundation.com>

Australia's SunSmart Program

Council of Victoria
1 Rathdowne Street
Carlton South, Victoria 3053
Australia
Telephone: 6103 9635 5000
<http://www.sunsmart.com.au>

AMC Cancer Research Center

1600 Pierce Street
Denver, CO 80214
303-233-6501
800-321-1557
<http://www.amc.org>

American Academy of Dermatology

930 North Meacham Road
P.O. Box 4014
Schaumburg, IL 60173-4965
Telephone: 888-462-DERM (462-3376)
<http://www.aad.org>

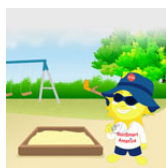
American Cancer Society

1599 Clifton Road, NE
Atlanta, GA 30329-4251
Telephone: 800 ACS-2345 (227-2345)

621 Clearwater Park Rd
West Palm Beach, FL 33401
561-366-0013
<http://www.cancer.org>

California Department of Health Service

Skin Cancer Prevention Program
P.O. Box 942732 MS-662
Sacramento, CA 95814
Telephone: 916-322-2154
<http://www.CA5ADAY.com>



Integrated Lessons for Elementary School Classes

Centers for Disease Control and Prevention

Division of Cancer Prevention and Control
4770 Buford Highway
Chamblee, GA 30341
Telephone: 1-888-842-6355, 770-488-4751
<http://cdc.gov/chooseyourcover/>

Melanoma Education Fund

7 Jones Street
Peabody, MA 01960
Telephone: 978-535-3080
e-mail: MEF@skincheck.com
<http://www.skincheck.com>

National Cancer Institute

Cancer Information Service
1-800-4-CANCER
<http://www.nci.nih.gov>

National Safety Council Environmental Health Center

1025 Connecticut Avenue, NW
Suite 1200
Washington, DC 20036
Telephone: 800-557-2366 ext. 2; 630- 285-1121
<http://www.nsc.org/ehc/sunsafer.htm>

SHADE Foundation

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

Sun Safety Alliance

413 North Lee Street
Alexandria, VA 22314
Telephone: 703-837-4202
<http://www.sunsafetyalliance.org/>

The Skin Cancer Foundation

245 Fifth Avenue
Suite 1403
New York, NY 10016
Telephone: 212-725-5176
<http://www.skincancer.org>

U.S. Environmental Protection Agency

Sunwise School Program
1200 Pennsylvania Ave. (6205J)
Washington, DC 20460
Telephone: 202-272-0167
<http://epa.gov.sunwise>



SunSmart America
Health Care Services Information

For skin cancer screenings and early detection services:

1. Make an appointment with a dermatologist. For a list of dermatologists in Palm Beach County, call the Richard David Kann Melanoma Foundation at 561-655-9655. For other locations, contact your local Medical Society or the American Academy of Dermatology for a list of dermatologists in your area.
2. If you do not have health insurance or have trouble getting an appointment, call the following resources in Palm Beach County or in the State of Florida:
 - a. Palm Beach County Health District 561-659-1270
 - b. Florida KidCare for Uninsured Children 1-888-540-KIDS
 - c. Your local office of the Department of Children and Families
 - d. Call your local hospital(s). Many community and university hospitals and clinics sponsor free skin cancer screenings each year.
 - e. The Quality Health Rights Program of the Palm Beach County Medical Society 561-433-3940.
3. In the State of Florida, there is a law called Direct Access that entitles HMO or EPO members to see a dermatologist without a referral from your plan or your primary care physician. For more information, call the Florida Society of Dermatology in Tallahassee at 850-531-8373.