JA

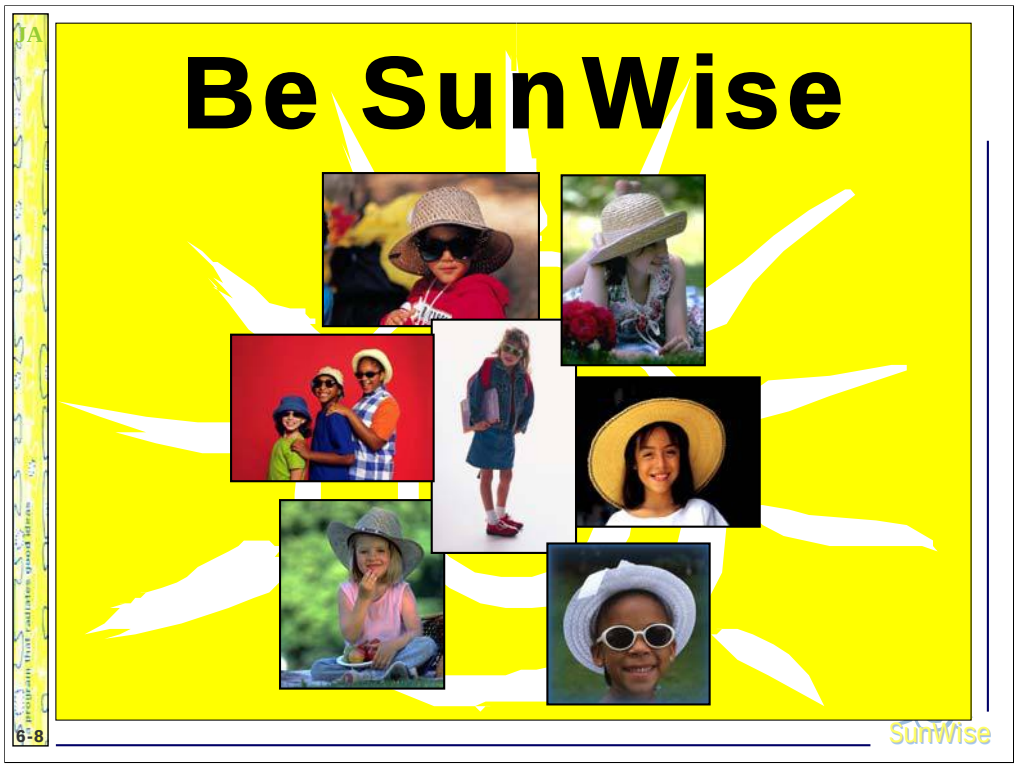
SunWise

a program that **radiates** good ideas

www.epa.gov/sunwise

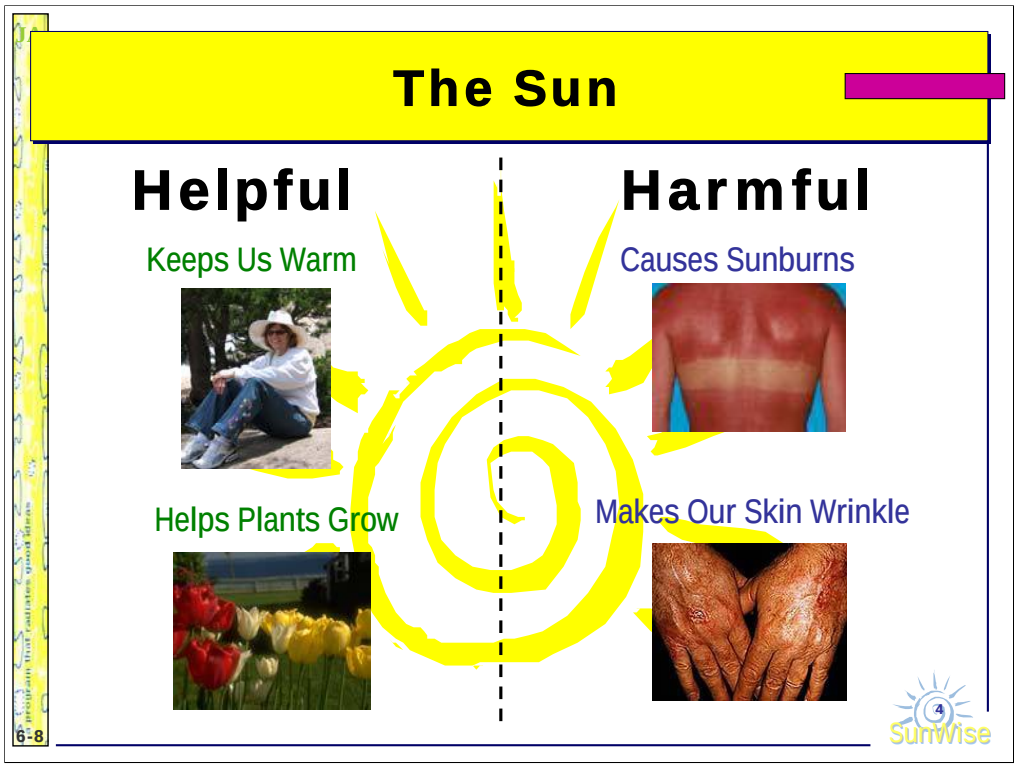
Grades 6-8

U.S. Environmental Protection Agency



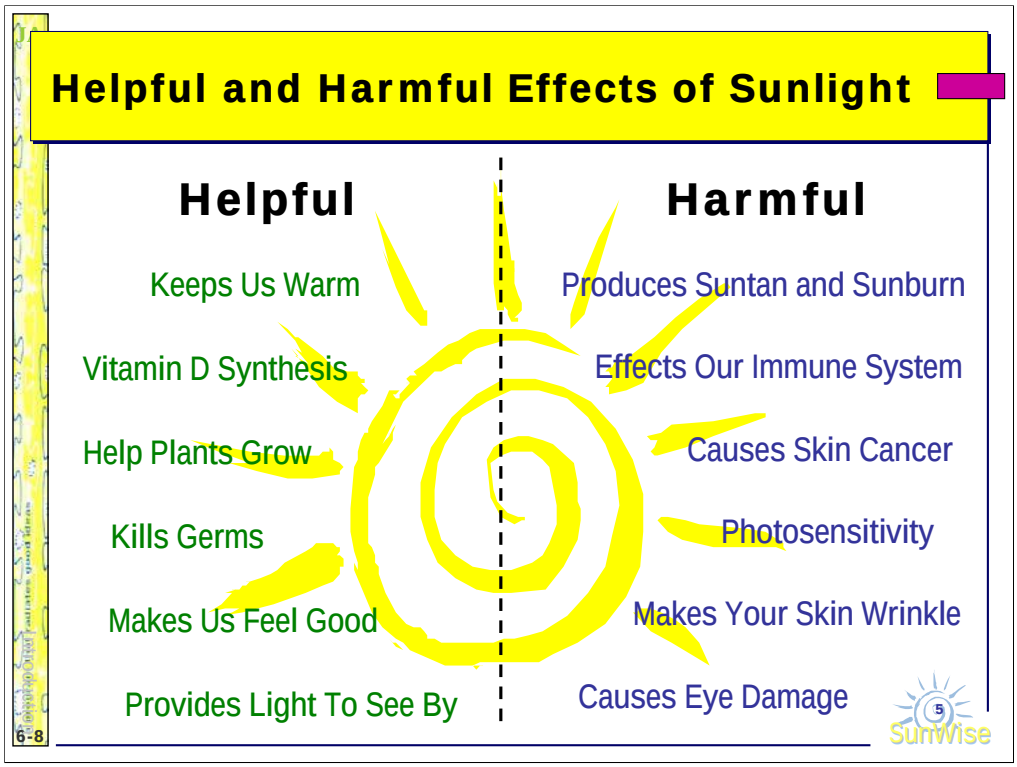
Ask students to look at the pictures and come up with a definition for the word "SunWise". You may chart the responses and keep posted for later reference. Tell students that they are going to receive more information about SunWise and that you will revisit the definitions later.

Ask the question and give student time to think about an answer. You might have them talk to a neighbor to generate ideas. After sufficient wait time move to the next slide. Ask students to share their ideas about the sun.



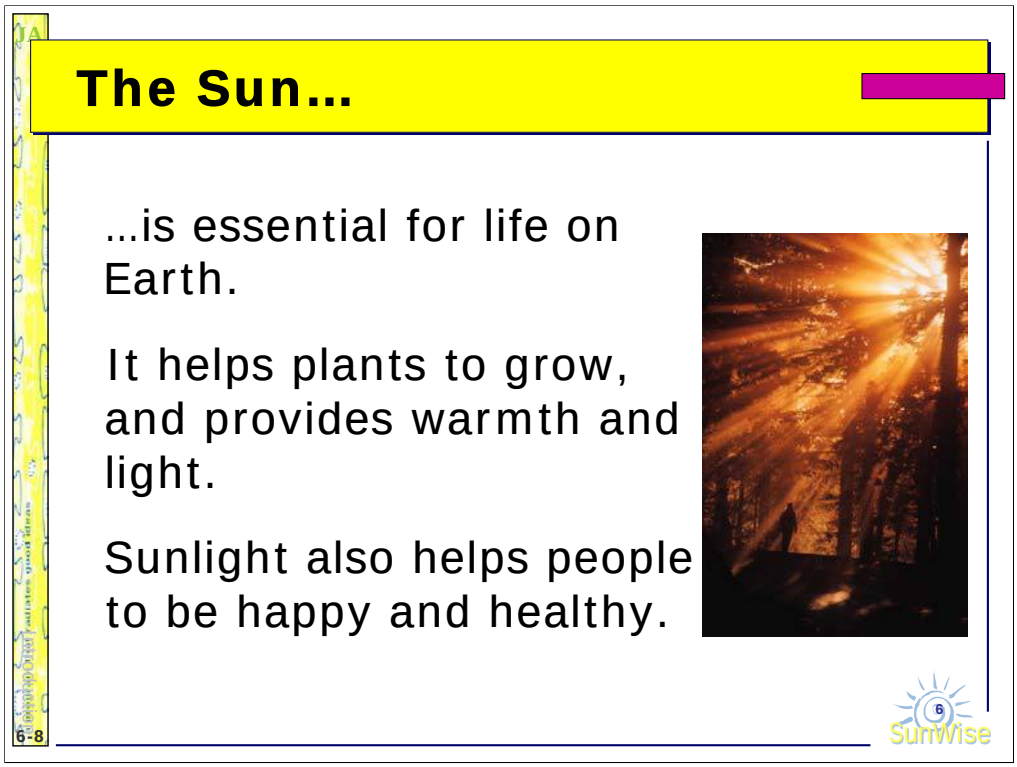
Give students ample time to generate ideas.

Listen to all student responses and then let the students know that you have pictures of a few things that show what we know about what our sun can do. Continue to move the slides forward until all four examples are on the screen. Ask students to look at the four pictures that you have selected and to put then into two categories. After students have shared their ideas for categories, move to the next slide…helpful and harmful…and ask students why you have selected these categories, fill in any background information for students for them to understand why the sunburn and wrinkles are not good for our skin (for background information go to the SunWise web site: http://www.epa.gov/sunwise/uvandhealth2.html).



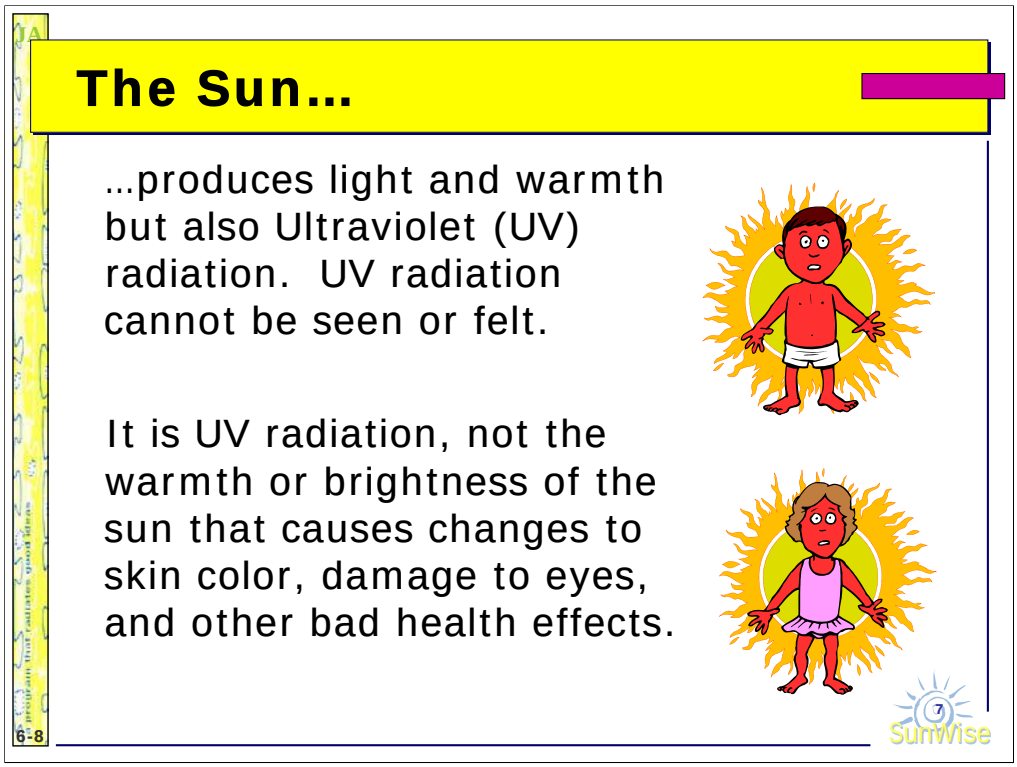
Note: Mouse click once to start the automatic listing of “helpful” effects. Mouse click again to start the automatic listing of “harmful” effects.

After the list of “helpful” effects are displayed, provide a deeper understanding and explanation of the different effects. Do the same for the “harmful” effects after they are displayed. Dialogue with the students the impact these effects have on their lives.



Summarize information about the sun…

For additional information go to the SunWise website (www.epa.gov/sunwise) or the SunWise kid pages (www.epa.gov/sunwise/kids.html)

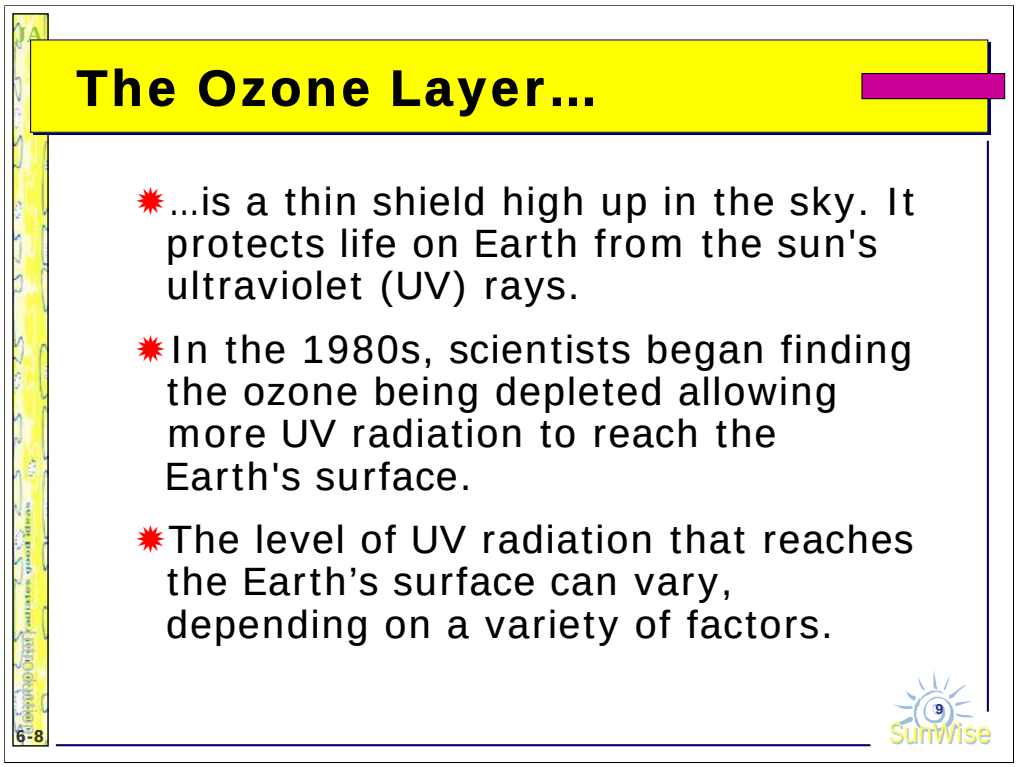


Point out that the sun also produces ultraviolet radiation that can be potentially harmful to us. Stress (as much as possible for this age group) that it is ultraviolet (UV) radiation, not the light or warmth that causes the harmful effects.

For additional information about UV radiation go to the SunWise website (www.epa.gov/sunwise/uvradiation.html)

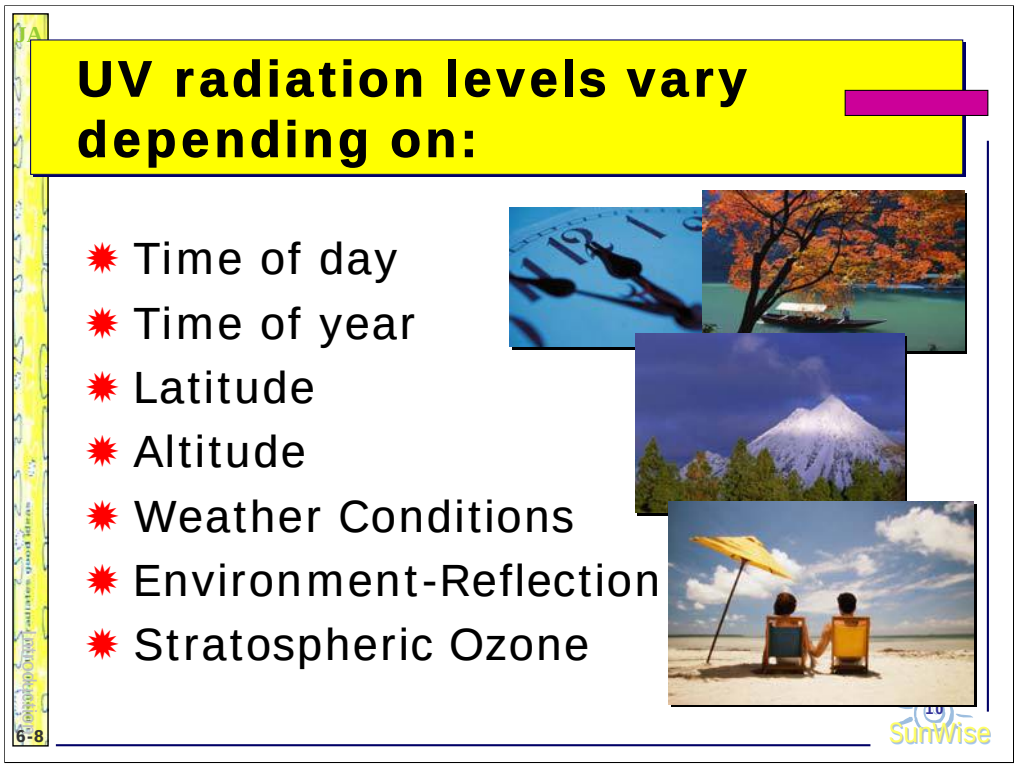
This video clip is the first half of the SunWise Sun Safety Program video. It outlines sun safe behaviors to prevent long-term illness and illustrates the historical context in which Americans developed risky sun behaviors. The video clip runtime is: 6 minutes 45 seconds.

After viewing the video clip, discuss with the students what they learned. Ask what insights, reactions, or thoughts do they have? Answer and/or clarify the students questions and misconceptions.



Review with the students what the Ozone Layer is and what happens when UV radiation reaches the Earth.

For additional information about the Ozone Layer go to the SunWise website (www.epa.gov/sunwise/kids/kids_ozone.html)



(General UV information: http://www.epa.gov/sunwise/uvindex.html)

Give students example of each variable that fits with their experiences such as:

Time of day: early morning vs. late at night (Note: Remember the shadow rule: Watch Your Shadow. No Shadow, Seek Shade!

Time of year: summer vs. winter

Latitude: near the equator vs. higher latitudes

Altitude: in the mountains

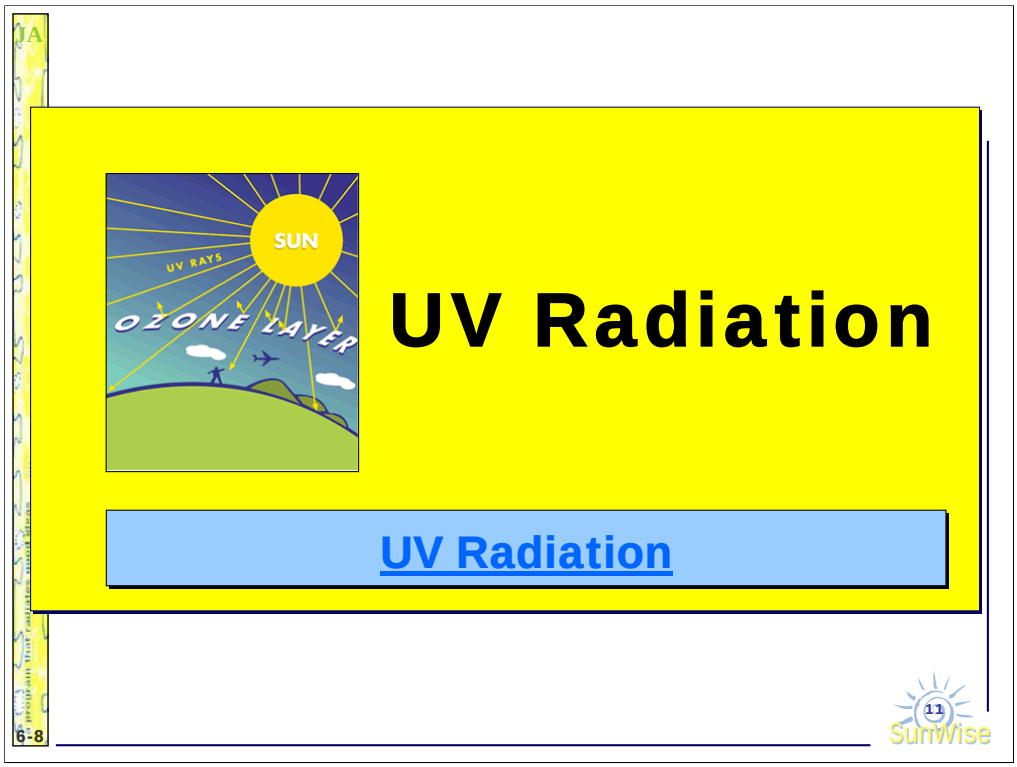
Weather: cloudy vs. clear

Reflection: snow and water

Stratospheric Ozone: is thinning and offering less protection against harmful UV rays

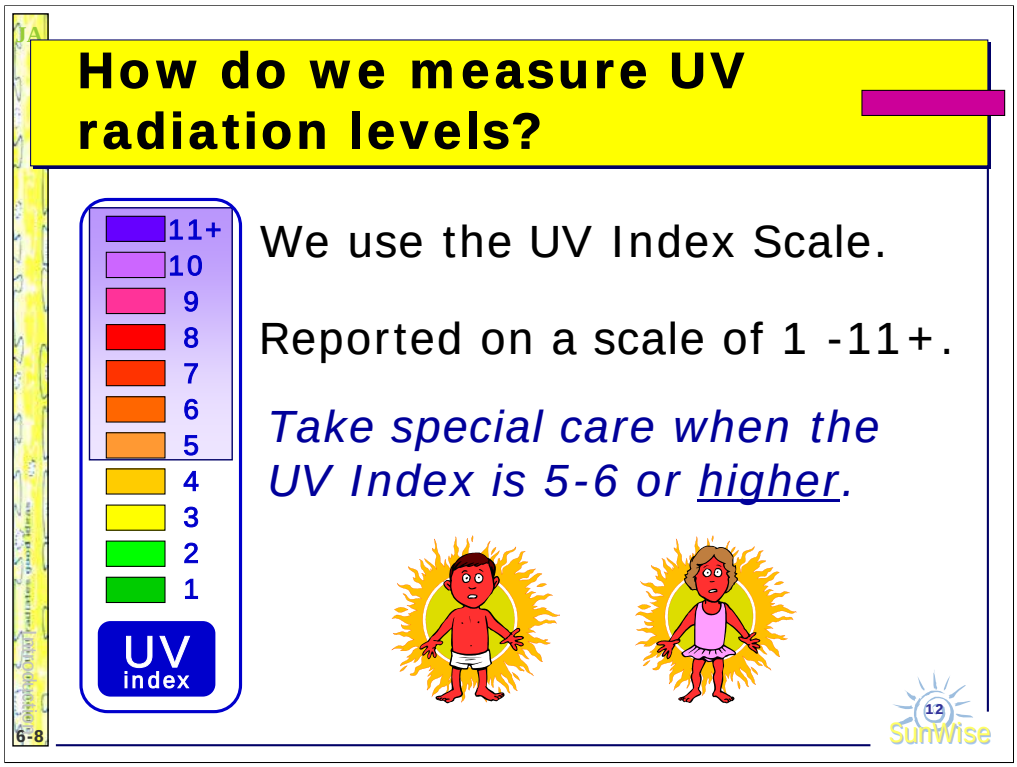
(Until recently, chlorofluorocarbons (CFCs) were used widely in industry and elsewhere as refrigerants, insulating foams, and solvents. When CFCs break down in the stratosphere, they release chlorine, which attacks ozone.
http://www.epa.gov/sunwise/ozonelayer.html)

Information on the UV Index and why it varies:
http://www.cpc.ncep.noaa.gov/products/stratosphere/uv_index/uv_information.html



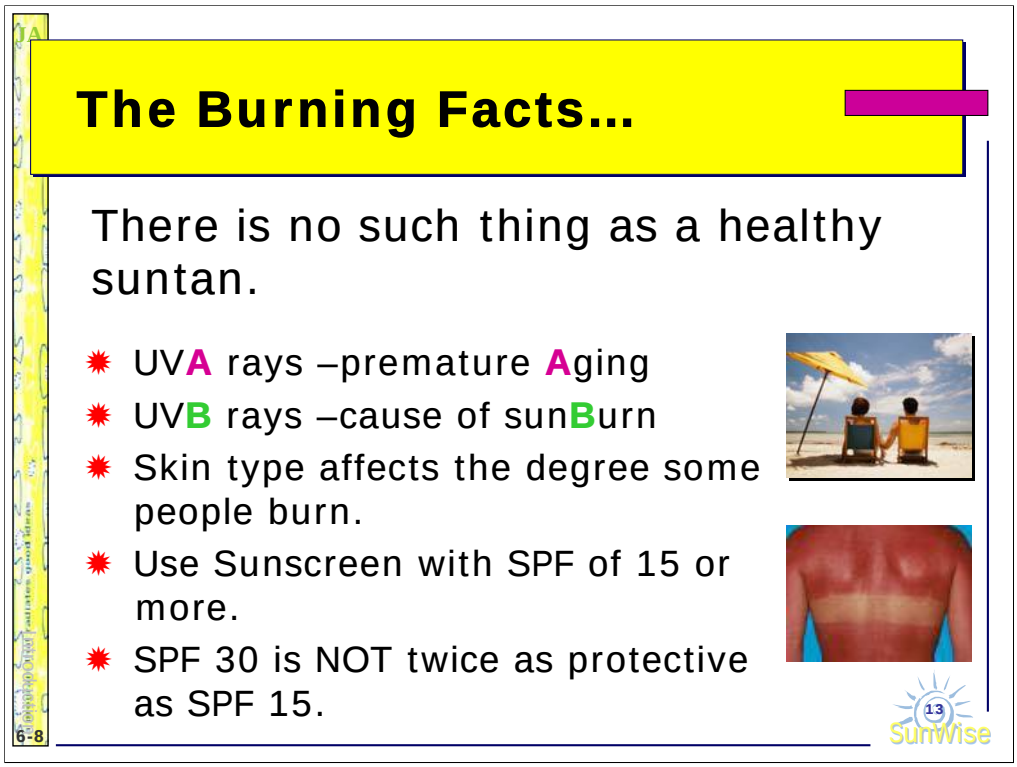
This video further describes UV radiation and its impact. This video clip runtime is: 2 minutes 30 seconds.

For additional information about UV radiation and the UV index go to the SunWise website (http://www.epa.gov/sunwise/kids/kids_uvindex.html)



The UV Index is a prediction (based on a mathematical equation http://www.epa.gov/sunwise/uvcalc.html) of the UV level at noon. It can be used as a tool (much like a thermometer is a tool for temperature) for reminding people how to protect themselves from overexposure to UV radiation. The higher the UV Index level, the greater the possibility of damage to the skin and eyes in less time. Ask students to think back to the pictures of people being SunWise you used when asking them to form a definition. What were some of the ways that people were taking special care to protect themselves from the UV radiation levels? Students should remember the use of sunglasses, wide brimmed hats and clothing.

For additional information about the UV Index go to the SunWise website (www.epa.gov/sunwise/uvwhat.html)



(The Burning Facts information: http://www.epa.gov/sunwise/doc/sunscreen.pdf)

Convey to the students that although the sun is necessary for life, too much sun exposure can lead to adverse health effects, including skin cancer. It is estimated that 90 percent of non-melanoma skin cancers and 65 percent of melanoma skin cancers are associated with exposure to ultraviolet (UV) radiation from the sun.

Inform the students that there is no such thing as a healthy suntan. Any change in your natural skin color is a sign of skin damage.

Review with the students that there are two types of UV radiation that can affect the skin UVA and UVB. UVA rays penetrate deep into the skin and heavily contribute to premature aging. UVB rays are the primary cause of sunburn.

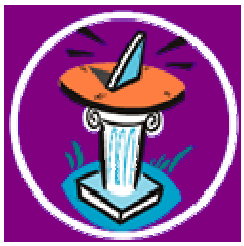
Skin type affects the degree to which some people burn and the time it takes them to burn. The FDA classifies skin type on a scale of 1 to 6. Individuals with lower number skin types (1 and 2) have fair skin and tend to burn. Individuals with higher number skin types (5 and 6), though capable of burning, have darker skin and do not burn as easily.

Sunscreens protect our skin by absorbing and/or reflecting UVA and UVB rays. The FDA requires that all sunscreens contain a Sun Protection Factor (SPF) label. Sunscreens with a SPF of at least 15 are recommended. Sunscreen of 30 is not twice as protective as an SPF of 15; rather and SPF of 15 protects the skin from 93% of UVB radiation, and an SPF of 30 provides 97% protection.

The following nine slides outline the action steps everyone should follow to help being over exposed to UV radiation.

Tell the students that while some exposure to sunlight can be enjoyable, too much can be dangerous. The good news is that you can prevent UV radiation from hurting you. You need to practice good sun habits while you are young. You should stay sun-safe all of your life.

Stress to the students that by following a number of simple steps they can still enjoy their time in the sun while protecting themselves from overexposure. Other than staying indoors, no single step can fully protect from overexposure to UV radiation, so they should use as many of the actions steps as possible. Review with them the following action steps. Discuss each step to further clarify and deepen their understanding of the importance of each step.



Limit Time in the Midday Sun

The sun's rays are strongest between 10 am and 4 pm.

To the extent possible, limit exposure to the sun during these hours.

Sun Safety Action Steps

Seek Shade

Staying under cover is one of the best ways to protect yourself from the sun.

But remember, shade structures do not offer complete sun protection.

Sun Safety Action Steps

Cover Up

Wearing tightly woven, loose-fitting, and full-length clothing is a good way to protect your skin from the sun's UV rays.

Sun Safety Action Steps

Use Sunscreen

Use sunscreen of SPF 15+ liberally and reapply every 2 hours, or after working, swimming, playing, or exercising outdoors.

Sun Safety Action Steps

Wear a Hat

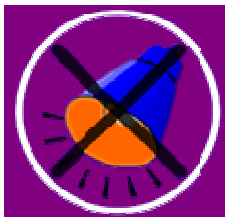
A hat with a wide brim offers good sun protection for your eyes, ears, face, and the back of your neck.

Sun Safety Action Steps

Wear Sunglasses

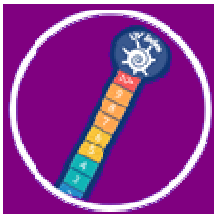
Sunglasses that provide 99 to 100 percent UVA and UVB protection will greatly reduce sun exposure that can lead to cataracts and other eye damage.

Sun Safety Action Steps



Avoid Tanning Parlors

The light source from sunbeds and sunlamps damages the skin and unprotected eyes. It is a good idea to avoid artificial sources of UV light.



Watch for the UV Index

The UV Index provides important information to help you plan your outdoor activities in ways that prevent overexposure to the sun. The UV Index is issued daily across the United States.

Ask students if they feel that they are SunWise and if not what more could they do to become SunWise. Have students brainstorm on how this might happen. Use the next four true/ false questions as a formative evaluation tool to check for understanding.

True or False?

You can get sunburned on a cloudy day.

True or False?

You can get sunburned on a cloudy day.

TRUE

Even on an overcast day, 30 to 60 percent of the sun's rays can reach the Earth's surface.

True or False?

You only need to wear sunscreen when you are at the beach.

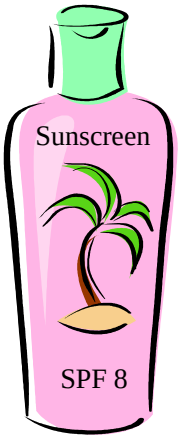
True or False?

You only need to wear sunscreen when you are at the beach.

FALSE

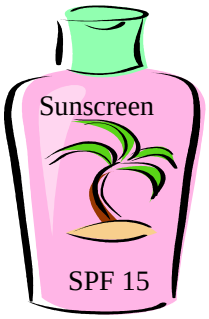
You do not have to be actively sunbathing to get a damaging dose of the sun. Everyday exposure counts!

True or False?



Sunscreen with a SPF of LESS than 15 is enough to protect my skin.

True or False?



Sunscreen with a SPF of LESS than 15 is enough to protect my skin.

FALSE

Use Sunscreen with **SPF 15 or Higher**. Remember, an ounce of prevention is worth a pound of cure.

SunWise

True or False?

My skin doesn't get sunburned, so I don't need to worry about protecting myself from overexposure to the sun.

True or False?

My skin doesn't get sunburned, so I don't need to worry about protecting myself from overexposure to the sun.

FALSE

Skin cancer and other bad effects from the sun can affect any person, regardless of skin color.

Ask the students to summarize what they learned. What did they learn? What action steps can they take to reduce overexposure to UV radiation? How can they change their outdoor sun behaviors? What else would they like to know about sun safe practices and behaviors?

This lesson was an introduction to the SunWise program and sun safety. To further extend and refine students knowledge and experiences about sun safety, use the various activities found in the SunWise tool kit and on the SunWise website. (www.epa.gov/sunwise)

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