Sun Safety

Empowering Girl Scouts to save lives
through skin cancer education
and prevention

girl scouts
nation's capital

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Sun Safety: Empowering Girl Scouts and Saving Lives

The world we live in is made possible because of the central star in the solar system - the sun. Its rays keep the Earth warm and help plants grow. But the sun can also be harmful and make you sick.

Studies have shown a connection between UV light exposure-whether from the sun or an artificial source - and skin cancer occurrences. Teens make up 2.3 million of the nearly 30 million people who go indoor tanning, and girls ages 10-19 years old make up 90 percent of all pediatric melanoma cases. Melanoma is the most dangerous type of skin cancer, accounting for the most skin cancer deaths.

These scary statistics are just a few of the many reasons the Girl Scout Council Nation's Capital, with the generous support of The Gendell Family Foundation, has created the Sun Safety patch program to educate you about the unseen - but dangerous - ultraviolet (UV) rays and empower you to take preventative action to help yourself and others be sun-safe.

In completing this patch program, you will learn to help yourself and others be sun safe.

Activity Requirements

The patch program activities are separated into three themes: ***Sun Savvy*** (activities introducing sun safety concepts), ***Sun Protection*** (activities applying sun safe knowledge) and ***Sun-Sational*** (activities promoting positive sun aspects). The program concludes with the required ***Sun Safety Pledge***.

Required Activities:
Girl Scout Daisies complete any two activities +Sun Safety pledge
Girl Scout Brownies complete one activity from each theme +Sun Safety pledge
Girl Scout Juniors complete one activity from each theme, plus one additional activity of their choice, +Sun Safety pledge

*Throughout the program, there are suggested Extension Ideas which may help you extend your learning beyond the activity. These are not required activities.

Once you complete the program you will earn the Sun Safety patch, which is sold in the council shops.

Some patch activities require you to be outside. Regardless of the length of time, you should take precautions to protect yourself from the sun when doing any outdoor activities. Sun protection is an important step for people of all skin types and all Girl Scouts should be encouraged to make good sun choices. Remember, even when it's cloudy or cold outside, the sun can be dangerous-some rays can filter through clouds, and reflect off snow, water, concrete or other surfaces onto skin and into eyes.

Sun Savy

Disappearing Shadows The sun is highest between the hours of 10 am and 4 pm each day. Though you should always practice good sun-safety, during those hours you should limit the amount of time you spend outside and if you must be outdoors, be extra careful to wear protective clothing and seek shade.

One way to help determine if the sun is in a dangerous position, is to look at the length of your shadow when you are outside - if your shadow is shorter than you are, it's a good idea to go inside.

On a sunny day select a flat location outside. Lie down on a large piece of paper and have a partner trace your outline and label it "my height". Then stand next to the paper putting your feet next to the feet in your outline, so that your shadow shows on the paper. Have your partner trace your shadow and label it with what time it is. Is your shadow's outline bigger or smaller than your actual "my height" outline? What does this mean?

Choose a few different times during the day to trace your shadow and compare their lengths to your actual height - some key times you may want to try are 9 am, 12 pm, 2 pm and 4 pm. If you have access to a concrete surface such as a sidewalk or driveway you can also use chalk to draw your outlines on the pavement to track the changes in your shadows.

Rate the Rays The UV Index is a scale that measures the intensity of ultraviolet (UV) rays. If skin is exposed to too much UV light it may get sunburned, become wrinkled or even develop skin cancer which can make you very sick. In the UV Index, each intensity level uses numbers and colors to tell you how risky it is to be outside. Find a chart that shows what each color and number in the UV Index means, such as the one on page 10. Use construction paper, markers or other materials to create UV color cards - one card for each color. For at least five days, find out what the UV rating is for the day and display the right cards to tell people the UV report; make sure you put the explanation chart next to the card on display. Maybe you can post the chart and the cards on your family's refrigerator or ask the school nurse if you can use the health room door. To find out what the UV rating is for your area look at the weather app or visit www.epa.gov and enter your zip code.

CFC Hunt Even though you can't see it, the ozone layer surrounds the Earth. Because the ozone layer helps keep people healthy by absorbing some of the harmful UV rays from the sun, it is important to take care of it. Some chemicals, called CFCs, used to be found in many household products, including refrigerators and hairsprays. Once people learned that CFCs make the ozone layer thinner, laws were passed which said CFCs had to start going away. With an adult's help, look through your house to see if you can find any products that have a "no CFCs" symbol or message on them. Keep a list of all the products you find. (Hint: looking at cans of hairspray, bug repellant, spray-on deodorant and air freshener is a good starting place.)

Sunscreen Science Test the strengths of sunscreen lotions by getting 3-4 non- expired lotions with different SPFs. How strong a sunscreen is, depends on its Sun Protection Factor (SPF). The higher the number, the longer it takes your skin to burn when wearing it properly. Wipe the sunscreens onto one side of the zipper sandwich bags - each strength on a separate bag. Be sure to label each bag with which SPF it is.

Add a small scoop of UV-sensitive beads to each of the sunscreen bags. Make sure the bags are zipped and securely closed, and the beads are positioned in an area of the bag that is coated with a thin layer of sunscreen. Put a small scoop of UV-sensitive beads into an empty bag and then take all of the bags into the sunlight and observe how the beads change. Do the beads protected by the lotion change as quickly as the beads in the bag with no sunscreen? Are the colors as bright? Are the beads in some bags brighter than the beads in others? What does this mean? (If you can't see the beads, you have too much sunscreen on the bags and should wipe some off.)

Put the bags in order from brightest beads to lightest and then compare their SPFs. Which sunscreen SPF works best? Think about how the beads are like your skin because they both change colors when exposed to UV rays from the sun (skin changes color when it tans or burns), though the beads change a lot faster than our skin does. Remember, everyone should use a broad-spectrum sunscreen with at least an SPF of 15. See Shopping List on page 9 for places to buy UV-sensitive products.

Sun Protection

Sun Safety Relay Race One way you can protect yourself from the sun's harmful UV rays is to wear clothing that shields your skin from sunlight. Long-sleeved shirts and pants cover a lot of skin, so those areas won't get burned. It is also important to remember to take steps to protect your eyes by wearing sunglasses or a hat with a brim.

Get your troop together and divide yourselves into two teams to play the Sun Safety Relay Race. Gather two sets of sun protection clothing - each set should have a pair of pants, a long-sleeved shirt, a hat with a brim and a pair of sunglasses. Put a set of protective clothes in a pile next to each team and several feet in front of each team set out a finish line marker, such as a chair.

At the start of the race, the first person on each team should dress as quickly as possible in all of the clothing and then run to and around their team's marker before running back to their team. Once back with their team, the person should take off the protective clothes and pass them to the next person on their team who puts the clothes on and runs around the marker. This continues until all of the people on the teams have gotten dressed and run. The team that has everyone dress and complete the race first wins. Repeat the race a few times and see how fast you can get dressed. Try switching up the teams. Can your troop think of other protective props you can add?

Are You Sun-dressed? Plan how you can be sun-safe on an upcoming troop camping trip, family vacation or sports practice. Would it be appropriate to wear a hat? Long sleeves? Sunglasses? Think about the activities you will be doing - remember if you're going to be getting wet from swimming or sweating, you may need a change of clothes or more sunscreen. Write a list, create a poster using drawings or pictures or think of another way to show what you would wear or take with you to shield your skin and eyes. When you go on your trip, put your plan into action - make sure you put on sunscreen before your soccer game and be sure to wear a hat when you visit the Grand Canyon.

Extension Idea Hats with wide brims can protect the part in your hair and shield your eyes. They can also be fun and stylish. Get a plain hat or visor from a craft store or find one in your closet. Use fabric markers or paint to decorate it with images and words that remind you to be sun safe.

The Mighty UV Meter Not all clothing is created equal. Though having clothing between your skin and the sun creates a barrier against UV rays, some materials block more light than others, and there are tools out there to help you figure out which materials are best. A UV meter is one tool you can use to check how dangerous UV light levels are. If you have access to a UV meter, use it to test the UV-blocking abilities of a few different pieces of clothing. Do this by taking the meter outside into direct sunlight and taking a reading of the UV Index number - make sure you make note of the number. The higher the number, the more UV danger there is. Staying in the same place, take another reading, but this time place a layer of clothing over the meter's sensor. What happened to the number - did it go up, down or stay the same? Test a few more pieces of clothing and keep track of their UV Index numbers. Maybe you want to check the protection offered by your favorite T-shirt, pair of jeans, or your outdoor sports jerseys. Also keep track of the colors and fabrics that the pieces of clothing are made of-which colors or materials seem to make a difference in blocking UV light? Before taking the readings, make sure you read the meter's directions carefully or have someone demonstrate how it works so that you know how to use the meter properly.

UV You Can See It is important to know if UV light is shining on you, even when you're inside. There are many UV-sensitive products on the market that you can use to make your own UV-detecting tool. Make a bracelet from UV-sensitive beads or give yourself a manicure using UV-sensitive nail polish. When you see your bracelet or nails change color in the sun, think about whether you're practicing good sun safety. You can also make a bracelet to give to a friend and include a short note to share the sun safety message. See the Shopping List on page 9 for places to buy UV-sensitive products.

Toast So You Don't Roast What you put in your body is just as important as what you put on your body to help you be safe in the sun. When it's hot outside or you play a lot, do you notice that your skin starts to sweat? By drinking the right amount of water, you are able to make sweat which is your body's way of cooling off. Sweat comes from inside your body through your skin, so if your skin becomes sunburned it makes it difficult for your body to cool itself.

Generally, you are supposed to drink about 64 oz of water each day (that's eight 8-oz glasses), and if you're doing exercise or it's a hot day, that number goes up. Use a measuring cup to pour out 8 oz of water and put it into your favorite water bottle so that you can see how much it is. For a week, try to drink this amount of water at least eight times every day. Think of creative and fun ways to keep track of the water you drink. Try a reusable water bottle and draw a smiley face on a special chart every 8 ounces you drink or pick out eight fun cups so that you can use a different one each time.

How Sun-usual People aren't the only ones who need to stay safe in the sun. Animals also have to be careful, especially because many of them live outside. Can you think of any ways that you have seen animals beat the heat? Look at the animals on page 11 and read about how they stay sun-safe. Find two other animals and learn how they practice sun safety. At least one should be an animal you can observe for a few minutes on a hot day such as a family pet or a resident at the local zoo or animal refuge.

Question and Answer You can cut down your risk of skin cancer if you take the right steps, and if it does develop and you catch it early enough, doctors can usually treat it. Invite someone who has been dealing with skin cancer to come and talk to your troop about their experiences. Maybe a friend or relative is a doctor or nurse who helps take care of people who have problems because of the sun. Before the person arrives, your troop should brainstorm some questions to ask. You might want to ask her how they help people with skin problems and share some sun safety information you've learned.

Sun-Sational

Helping the Flowers Grow The sun keeps the planet warm and makes life possible. Plants need water and light from the sun to grow. Think of a few things that you use or eat that come from trees and other plants. Plants are so important that many states have an official flower or tree. What is your state's flower or tree?

Extension Idea Juliette Gordon Low - the founder of Girl Scouts - even had a flower for a nickname - can you find or draw a picture of her flower nickname? What would your flower nickname be?

Sunflower Power Not only do sunflowers look like mini suns because of their large centers and bright yellow petals, as they grow, their heads turn to face the sun and follow its course through the sky. In honor of this solar-powered flower, learn one fact about sunflowers or find one product that can be made from them. Then try this tasty sunflower-inspired snack: Spread some peanut butter evenly on one side of a piece of bread and then use a flower-shaped cookie cutter to cut out a flower from the bread. Sprinkle a few actual sunflower seeds (with shells removed) onto the center of your mini sunflower and enjoy your treat.

Making Light of Art You can use sunlight to make artwork. Find a dark colored piece of construction paper and put it in a spot that receives a lot of sun. Find some objects with interesting shapes and put them in different places on the paper. Let the paper and objects sit undisturbed for several days. After about a week, look to see what sun prints were made on your paper. Use your new sun-printed paper to make a note card to write a sun safety message to a friend or frame it and put it on your wall as a reminder to yourself of the sun's power. There is also special sun-sensitive paper you can buy which will make the change in just a few minutes. See the Shopping List on page 9 for places to buy UV-sensitive products.

Baking Bonanza The sun's heat can be used to make energy that powers things you can use. Make your own solar-powered oven by covering one side of a piece of white paper completely with aluminum foil and gluing it in place. Roll the paper into a cone - foil side in - and use tape to hold it together. Try using your solar cone oven to make a Girl Scout S'more treat. Place half of a Graham cracker into the cup of the cone so it sits firmly in place and makes a ledge. Add chocolate and marshmallows on top of the cracker and then cover the cone opening with clear plastic wrap and secure it with a rubber band. Put your oven in a tall drinking glass and set it outside in a place that gets a lot of direct sun. Wait for the chocolate and marshmallows to melt a bit and then take everything out and put the other half of the Graham cracker on top.

Sun Safety Pledge

My Sun Safety Promise Complete the patch requirements by making a Sun Safety Pledge. A pledge is a promise to do - or not to do - something. Think about what you learned by working on this patch program - what will you do to keep yourself and your friends and family sun-safe? Maybe you can promise to make sure you find shade in the middle of the day or check the sunscreen in your house to make sure it isn't expired. Write down or draw a picture of your pledge and be sure to share it with others. Read the words of the Girl Scout Promise and the Girl Scout Law to help you.

My Safe Sun Promise

I will continue to practice Sun Safety and help my friends and family by sun safe too!

I, _____, Pledge to...

_____

_____

_____ Signature

_____ Adult Signature

A sample of a pledge card you can fill out to make your sun-safety promise or make one of your own.

Shopping List

Some supplies required for the activities in this patch program may not be readily available at stores and may need to be purchased through specialty vendors. For your convenience, this list of websites offers shopping suggestions for places to purchase some of the harder-to-find items. These are merely suggested vendors, and the quality and availability of materials cannot be guaranteed by GSCNC.

The Container Store www.containerstore.com
1 oz travel containers
Spray bottles

Educational Innovations www.teachersource.com
UV meter
UV-sensitive Beads
UV-sensitive Nail Polish
UV-sensitive Paper

S&S Worldwide www.ssww.com
UV-sensitive Beads

Steve Spangler Science www.stevespanglerscience.com
UV-sensitive Beads
UV-sensitive Cloth
UV-sensitive Paper

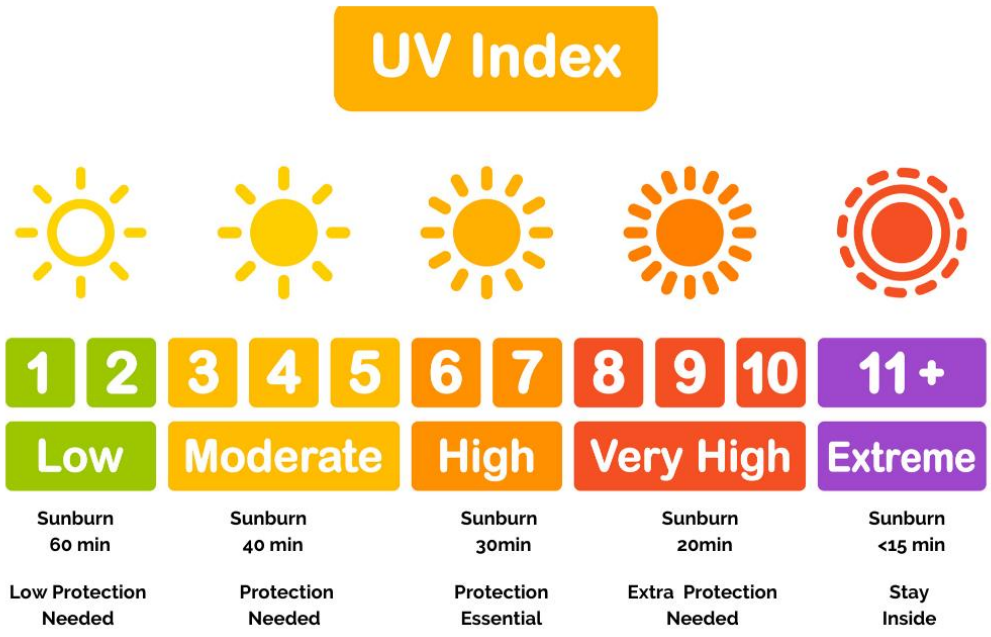
Though not required for use in any of the patch program activities, the following is a list of materials and vendors you may find helpful in coming up with your own sun safety activities to further your understanding.

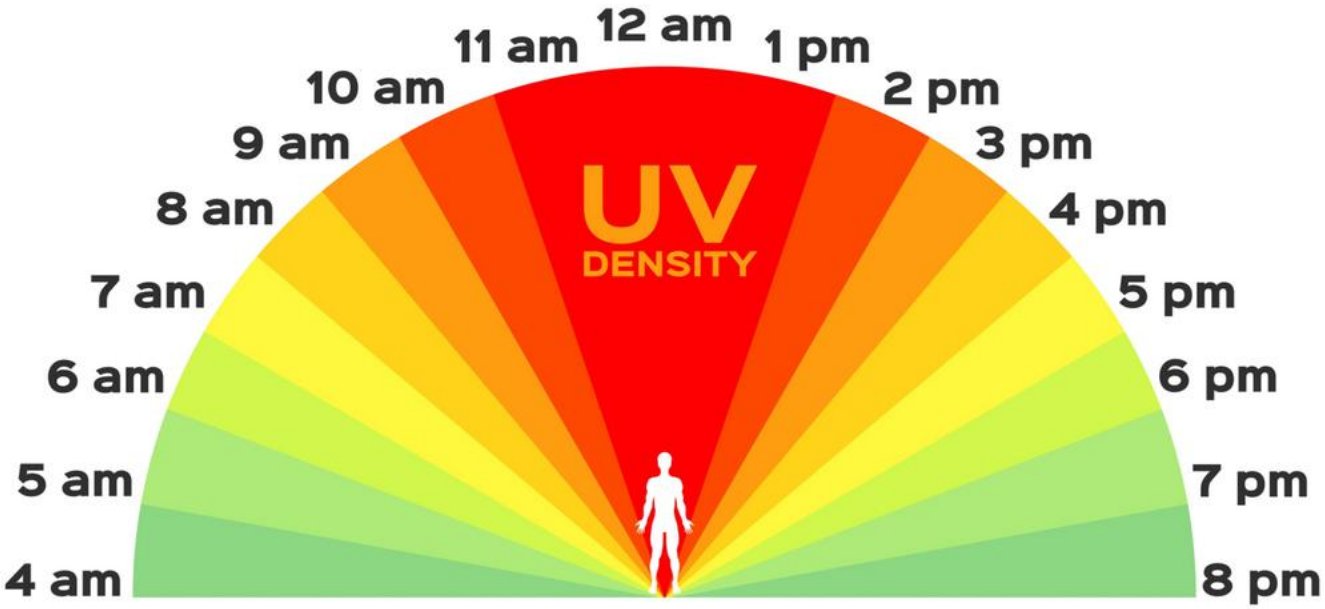
UV-sensitive Flyer Discs
www.powerballgyroscope.com
www.dtworld.com

Plastic Visors
www.ssww.com

UV Index

The UV Index scale uses colors and numbers to rate the intensity of UV rays at the Earth's surface. The levels are based on measurements that consider the angle of the sun, ozone amounts in the atmosphere and other factors.





Careful Critters

Animals practice some pretty nifty strategies to keep themselves happy and healthy in the sun. Check out some of their defenses below!

Meerkats have black rings around their eyes to absorb the sun's rays, protecting their eyes from sun damage

The dark color of a giraffe's tongue protects it from getting sunburned.

Warthogs don't have sweat glands so they will wallow in the mud to cool off and to protect their skin from the sun.

Hippopotamuses make their own sunscreen. They have glands in their skin that produce a red liquid which coats their skin and turns them a pinkish color! In addition to protecting their skin from the sun, the special liquid also helps them fight disease.

References and Resources

American Academy of Dermatology www.aad.org

American Cancer Society www.cancer.org

Centers for Disease Control and Prevention www.cdc.gov/cancer/skin

Environmental Protection Agency www.epa.gov

Drinking water information and children's activities:
http://water.epa.gov/learn/kids/drinkingwater/upload/TheWater-Sourcebooks-Grade-Level-K-2.pdf

KidsHealth www.kidshealth.org
(with companion info for parents) https://kidshealth.org/en/parents/all-categories.html
Searchable site with articles specific to teens
https://kidshealth.org/en/teens/all-categories.html

TeensHealth www.teenshealth.org

The Learning Channel www.tlc.howstuffworks.com/family/sunshine-activities.htm

National Institutes of Health www.health.nih.gov/topic/SkinCancer
Sun exposure information and links to other resources:
www.nlm.nih.gov/medlineplus/sunexposure.html
Brief journal article on Vitamin D and sunlight: www.ncbi.nlm.nih.gov/pubmed/15585788

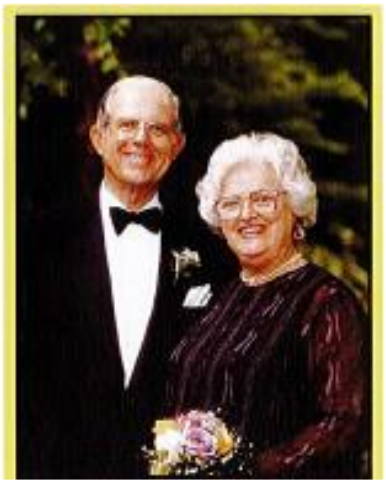
San Diego State University www.foundation.sdsu.edu/sunwisestampede/meetanimals.html

Skin Cancer Foundation www.skincancer.org
Skin cancer statistics: www.skincancer.org/skin-cancer-facts.html

United Nations www.ozone.unep.org
Additional information about the UN's ozone-supporting efforts: www.unep.org/ozonaction

The Sun Safety Story

By Carin Gendell



Gerry & Marion Gendall

A current TV show calls it the "Big C" - cancer. Many families face losing a loved one to cancer, and our family was no exception. My father, Gerry Gendell, valiantly fought melanoma for 18 months before he lost his battle in July 2009, just two weeks after turning 80 years old.

Like many bereaved families, we wanted to honor our father by educating people about skin cancer, which can strike both young and old. We were shocked to discover that melanoma the deadliest form of skin cancer - is the second leading cause of cancer deaths among women in their late twenties. As a longtime GSCNC volunteer, I knew that one of GSCNC's former staffers, Teen Program Specialist Jessica L. (Hodgkins) Dovi, succumbed to the disease at only 30 in April 2008.

The natural place for us to start educating girls was Girl Scouts. Our family has a long Girl Scout history starting with my mother who loved being a Girl Guide in England. My sisters and I fondly remembered Girl Scout camping and hiking when we were young, but we weren't aware of the dangers of sun exposure. As an adult leader, I knew about the dangers and always encouraged my daughters and their scout friends to use sunscreen during our wonderful adventures outdoors. But the truth is I only worried that the girls would get bad sunburn; I didn't worry enough that they were at risk for melanoma. Another important reason for honoring my father through Girl Scouts is to remember his commitment to developing leadership skills in young women. As a senior executive at the Procter & Gamble Company, my father was an early advocate for hiring young women into the marketing ranks and developing them into future executives. He mentored numerous young women, including his three daughters, who went on to be successful managers and leaders. It's no surprise that he encouraged his own daughters to join Girl Scouts, one of the few activities in the 1970's that encouraged girls to take on leadership roles.

The Gendell Family Foundation is proud to fund the creation of the Sun Safety program in honor of Gerry. Our greatest hope is to teach girls to enjoy the outdoors safely while avoiding the risks of melanoma so that they can grow up to be outstanding leaders who make the world a better place.