



# SunSafe in the Middle School Years

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## PEER GROUP MANUAL



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## Project Background

*SunSafe in the Middle School Years* is designed to improve sun protection behaviors of middle school students (10- to 13-year-olds). Originally developed in 2000, SunSafe in the Middle School Years was developed and tested using funding provided by the National Cancer Institute, and the project was directed by Ardis Olson, M.D. At the time, the project worked with schools, coaches, town recreation programs, parents, and health care providers in 10 communities throughout Vermont and New Hampshire.

This multi-component intervention demonstrates that community members can serve as role models and educators to change youth sun protection actions and thus reduce skin cancer risks. Findings from the original study include:

- Youth in the intervention communities were more likely to use sunscreen and to apply it more thoroughly than those in the control communities.
- Youth in the intervention communities reported receiving sun protection advice from more adults than those in the control communities.
- Youth in the intervention communities protected more of their body from the sun than those in the control communities.

## Why Middle School Students?

Middle school is an important time to work with youth. During this age, youth are making more independent health behavior choices but are still willing to listen to adults' advice and they are still influenced by the role modeling of parents, teachers, and coaches.

- 80% of lifetime sun exposure occurs before age 18.<sup>i</sup> Only 35% of middle school students protect themselves from sun damage.
- In 2019, 66% of VT middle school students reported having at least one sunburn in the past 12 months. The percent of students who had sunburns increased with each grade level.<sup>ii</sup>
- One or more blistering sunburns in childhood or adolescence doubles the risk of developing melanoma later in life.<sup>iii</sup>
- 84% of middle school youth understand protecting themselves from sun damage can prevent skin cancer. However, less than one third (29%) use sunscreen and only 7% wear a hat. (data from baseline of study – unpublished data)

## Why Peer Group Activities?

- Research has found that teens can positively influence the behavior of their peers. Peer groups can promote UV safe behaviors in ways that their friends and peers will notice.
- Peer groups can organize activities that have the potential to change social norms.
- Promoting healthy behavior helps kids develop habits that will help them have a healthier life.

## What are SunSafe Behaviors?

Skin protection is an important defense against skin cancer. The body's usual defense against the sun's damaging ultraviolet rays is a pigment in the skin called melanin. Some individuals have more melanin. The melanin in light brown or tanned skin provides only as much defense as a sunscreen with an SPF of 4. The melanin in dark black skin provides only as much defense as a sunscreen with an SPF of 8. This means that even people with the darkest skin can get sunburns.

So, to protect your skin from the sun's harmful rays, always cover up, seek shade, and wear a UVA/UVB sunscreen with an SPF of 30 or greater on skin exposed to the sun.

### Cover Up

Wear clothing that covers your skin. Such as:

- Long sleeve shirts.
- Long pants.
- Hats. Wide-brimmed hats are best. They protect the neck, ears, eyes, forehead, nose, and scalp.
- Sunglasses that block 99 - 100% of UVA and UVB rays.

### Seek Shade

Reduce UV radiation by taking shelter under a tree, umbrella, or another shady spot, especially when the radiation from the sun is most intense. The intensity of the sun's rays varies by:

- Time of day. The sun's rays are the most intense between 10 am and 4pm.
- Time of the year.
- Elevation.
- Reflection off surfaces (such as water or snow)
- Cloud cover.

## Use Good Sunscreen and Apply Often

Use a broad-spectrum sunscreen with an SPF of at least 30.

- Apply sunscreen liberally to all exposed skin 20-30 minutes before going outside. Include lips, ears, feet, hands, bald spots, and the back of your neck.
- **Reapply sunscreen at least every 2 hours.** There is no such thing as “waterproof” sunscreen. Sunscreen may be water resistant (up to 40 minutes) or very water resistant (up to 80 minutes). However, the sunscreen should still be reapplied after swimming, sweating, or drying the skin.

## The UV Index

The ozone shields the earth from harmful UV radiation. The thinning of the ozone layer, as well as seasonal and weather changes, cause different amounts of UV radiation to reach the earth at any given time. Clear skies allow 100% of incoming radiation (what gets through the ozone) to reach the Earth’s surface. The UV Index provides a daily forecast of the expected risk of overexposure to the sun. A computer model is used to calculate the UV index based on the ozone conditions, elevation, and cloud cover.

The UV gives the expected UV radiation reaching Earth’s surface on a scale of 1 to 10+. The higher the number, the greater the exposure to UV radiation and the greater the need to protect your skin. Check the UV Index each day to plan for adequate protection against the sun’s radiation.

The UV forecast can be found online at <http://weather.com>

Index Number	Exposure Level	Minutes to Skin Damage
0-2	Minimal	>60
3-4	Low	30-40
5-6	Moderate	20-30
7-9	High	10-20

In NH and VT, the UV Index on a clear day in early spring is often as high as the UV Index on a summer day. Sun damage to unprotected skin can begin within 10 minutes on sunny days in late April or early September.

## Peer Group Activity: Poster Contest

The goal of the poster contest is to promote sun protection messages to peers. Sun protection messages may include:

- Seek shade, especially during peak UV times.
- Wear sunscreen.
- Use a broad spectrum (protects against UVA and UVB rays), water-resistant sunscreen whenever you are outside.
- Cover up (wear protective clothing).
- Use your head (wear a hat)
- Grab sunglasses (wear UVA/UVB sunglasses)

### **Supplies**

- 11 x 14-inch poster board (optional)
- Poster contest rules (handout)
- Old magazines or other art supplies (optional)
- Computer software to make digital posters that can also be printed out.
- Programs will depend on the school's and student's access, but may include Canva, Adobe pdf makers, Adobe InDesign, and others.

### **Resources**

- <https://skincancerprevention.org/>
- <https://impactmelanoma.org/>
- [https://www.cdc.gov/cancer/skin/basic\\_info/sun-safety.htm](https://www.cdc.gov/cancer/skin/basic_info/sun-safety.htm)
- <https://cancer.dartmouth.edu/cancer-community/resources>

### **Timeline**

This activity will take about 5 weeks to complete. The following is a sample timeline.

- Week 1: Host a meeting to assign tasks for each team member.
- Week 2: Announce the contest to classmates. Provide a contest end date within 2 weeks from the announcement.
- Week 2 – Week 3: Contest is live.
- Week 4: Host a meeting with the subcommittee to judge the posters. Ideally this will be one or two days after the poster's due date.
- Week 4 – Week 5: After the posters have been judged (this will probably be towards the end of week 4), display the posters in school for the remainder of the week plus the next week.

## **Activity Tasks**

- Define rules, modify handouts, and distribute them to classmates.
  - Create scoring criteria.
  - Set a due date.
- Identify and secure prizes, if any.
- Identify a contact person. This will most likely be a Sun Team Mentor.
- Identify what will happen to the posters after the contest is over.
- Announce the poster contest to classmates.
- Distribute contest information and supplies (if providing supplies) to classmates.
- Collect the completed posters.
  - The collection method will depend on how the contestants develop their posters.
  - Collection can be through an online submission process, via email, or by the submission of hard copies.
- Assign a number to each poster to protect anonymity.
  - If submissions are done online, a random ID can be generated for each poster submission.
- Score the poster submissions using the scoring criteria developed previously.
  - Do NOT change the scoring criteria after distributing the criteria to potential participants.
- Notify the winner(s) and distribute prize(s), if any.
- Announce contest winner(s).
- Notify a local newspaper about the contest and the winners (optional).
- A school newspaper, social media channels, or newsletter/listserv could also be used to distribute information about the contest and winners.
- Display all the posters that were submitted for the contest in school. You can identify the winning posters if desired.
- After the contest is over, take down the posters.
  - Follow the steps you identified in the planning stages for what to do with the posters after the contest is complete.

## Peer Group Activity: TGIF Sun News

The goal of the TGIF Sun News activity is to deliver a sun safe message with the weekend's weather forecast to classmates. Information that should be included in the TGIF Sun News activity announcement is below.

- The UV Index. This can help students and teachers learn more about the UV index, where to get the index, and how to monitor solar radiation.
- Trivia that encourages your peers and your teachers to protect themselves from the sun. When drafting this information, think about your audience. Who is hearing your message -- students, teachers, coaches, other adults?

### **Supplies**

- Computer, tablet, phone, or whatever device you use to get online.
- Worksheet (digital or printed copy)

### **Resources**

- [www.weather.com](http://www.weather.com)
- [www.weather.gov](http://www.weather.gov)
- [www.wunderground.com](http://www.wunderground.com)

### **Timeline** (about 4-6 weeks to complete)

Try to make the announcements every Friday for 4 to 6 weeks in a row.

- It should take about 15 – 20 minutes per week to research the weekend's forecast and write the announcement.
- It should take about 10 minutes to read the announcement each Friday.

### **Activity Tasks**

- Identify the start date and final date.
- Make arrangements to use the school's PA system.
- Identify students who will research weather reports and write announcements each week.
- Identify students who will announce the weather report each week.
- How will that student get the weekend report from the researcher?
- Make an announcement each Friday.
- Keep copies of each week's announcement.

## TGIF Sun News: Announcement Worksheet

Compose a 15 to 30 second message for the weekend weather forecast. Include the following things, but also try to keep it simple.

- Weather (for example, sunny, cloudy, windy, rainy).
- Temperature (the anticipated highs and lows for each weekend day).
- UV Index (the anticipated highs and lows for each weekend day).
- SunSafe Message – use simple action suggestion. Link to school activity if possible.
- Trivia – fun information about harmful effects of sun exposure to motivate sun safe behaviors.

### Resources

- [www.weather.com](http://www.weather.com)
- [www.weather.gov](http://www.weather.gov)
- [www.wunderground.com](http://www.wunderground.com)

### Information

Saturday	Sunday
UV Index	UV Index
(HI) _____ (LO) _____	(HI) _____ (LO) _____
Forecasted Temperatures	Forecasted Temperatures
Sunny _____ Rain _____	Sunny _____ Rain _____
Cloudy Partly cloudy _____	Cloudy Partly cloudy _____
Trivia	Trivia
_____	_____
_____	_____
Sun Message	Sun Message
_____	_____
_____	_____



## The Weather Report

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### **Sample weather report script**

Hi this is \_\_\_\_ and this is a weekend weather message from the \_\_\_\_\_ Sun Team.

According to the National Weather Service, we're not expecting a whole lot of sun this weekend. It's promising to be mostly cloudy today, mostly cloudy with thunderstorms tomorrow, and mostly cloudy with showers on Sunday. However, the UV Index is still predicted to be as high as 7. The sun's rays can still burn us even when it's cloudy.

We still need to protect ourselves from the sun even when we think that there isn't any sun. Don't forget to pay attention to what time of the day it is, to reduce your exposure to harmful rays during the sun's peak hours of 10am to 4pm. If your activities take you outside, remember to use water-resistant sunscreen with an SPF of 30 or higher that protects against both UVA and UVB rays, and don't forget to wear a hat and protective clothing and to put on your sunglasses.

And just something to think about – one out of every five Americans will develop skin cancer. It's easy and cool to protect yourself from the sun. Children our age are at the highest risk of overexposure to the sun because we spend so much time outside. Don't try to get a tan and don't go to tanning booths – tanning booths double our risk of getting skin cancer.

Have a good weekend everyone!

## Vocabulary

**Ozone** – A layer of the earth’s atmosphere at heights of about 32 x 48 kilometers that is normally characterized by high ozone content; it blocks some of the sun’s ultraviolet light from the sun (all UVC, some UVB, and one of UVA) before it hits the ground. Unfortunately, parts of the ozone are thinning because of harmful substances on earth, so more and more UV rays are getting through.

**UV Index** – A measure of the amount of UVR getting through the ozone, zero being the lowest and 15 being the highest. You can check the daily UV index for your area on certain websites like <https://weather.com>.

**UVR (Ultraviolet Radiation)** – Harmful rays from the sun, some of which are absorbed by the ozone layer, that can damage our skin and eyes. Seeking shade, limiting time in the sun during peak hours, and wearing sunscreen, sunglasses, and protective clothing can help prevent harmful ultraviolet rays from affecting us.

**UVA Rays** – A is for Aging. The longest of the ultraviolet rays; most of the waves are not absorbed by the atmosphere and reach the ground. UVA can damage the skin and cause premature aging.

**UVB Rays** – B is for Burning. Ultraviolet rays that are partially absorbed by the atmosphere, though some still reach the ground. UVB rays are responsible for the actual burning of the skin – sunburns.

**UVC Rays** – Ultraviolet rays that are almost completely absorbed by the atmosphere. UVC rays do not reach the ground and therefore are not a threat to the health of our skin.

**Skin** – the largest organ in the human body, made up of three layers: the epidermis (the thin outer layer), the dermis (the middle layer), and the subcutaneous (the innermost layer). The layers of the skin are held together by an important protein called collagen. Together the layers of the skin protect the body by keeping the inside in and the outside out. Skin damage from sun exposure can take many forms – from tanning to freckling to wrinkling and, ultimately, to skin cancer.

**Melanin** – A dark brown or black pigment that, in human beings, is responsible for black or brown skin. Melanin can darken or “tan” your skin to help protect it from the damaging UV rays.

**Melanocytes** – A type of cell in the skin that contains or produces melanin. Melanomas develop from melanocyte cells.

**Cancer** – A disease in which abnormal cells grow out of control. A cancer tends to spread locally and to other parts of the body and often causes death if not treated. Skin cancer can be caused by too much UVR exposure in one’s life.

**Sun Tanning** – Melanocytes are important cells found in the epidermis. In reaction to sunlight, melanocytes produce a special, protective pigment called melanin that darkens the skin to protect it from the damaging UVR. These cells are responsible for any sort of “tan” color your skin turns. However, far from being beautiful, a tan is a sign that your skin has been over-exposed to UVR and that it is trying to protect itself from more harm. So, a tan isn’t “healthy” at all – *it’s a signal that your skin is reacting to sun damage.*

**Sunburn** – A sunburn is a result of way too much sun, and it hurts! When your skin turns red, or, in the worst cases, blisters, you’ve literally fried your epidermis.

**Wrinkling** – Another sign of skin damage is wrinkling. UVR rays penetrate deep inside your skin – all the way to the dermis. Here, they damage collagen, which is the protein that holds your skin together in that nice, smooth way you’re used to. When collagen is damaged, it isn’t as strong, and your skin gets looser – this results in wrinkles.

**SPF (Sun Protection Factor)** – The measure used to determine the strength and effectiveness of sunscreens from protecting against UVB rays. Generally, the higher the SPF, the longer a person can stay out in the sun without getting burned while wearing their sunscreen. But remember that SPF only measures protection against UVB rays, not UVA rays.

**Broad-spectrum** – A type of sunscreen that will block both UVA and UVB rays. Broad-spectrum sunscreen differs from normal sunscreen in that it protects you from UVA and UVB – normal sunscreen only protects against UVB rays.

**Peak Hours** – The hours between 10am and 4pm when the sun is directly overhead. During peak hours, UV exposure is at its strongest because of the angle and intensity of the sun’s rays.

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<sup>i</sup> Cleveland Clinic (2022). Ultraviolet Radiation and Skin Cancer.

<https://my.clevelandclinic.org/health/diseases/10985-ultraviolet-radiation>

<sup>ii</sup> Vermont Department of Health. (2020). 2019 Vermont Youth Risk Behavior Survey Report, 173.

[www.healthvermont.gov/sites/default/files/documents/pdf/CHS\\_YRBS\\_statewide\\_report.pdf](http://www.healthvermont.gov/sites/default/files/documents/pdf/CHS_YRBS_statewide_report.pdf)

<sup>iii</sup> Skin Cancer Foundation. (2021). Sunburn & Your Skin. [www.skincancer.org/risk-factors/sunburn/](http://www.skincancer.org/risk-factors/sunburn/)