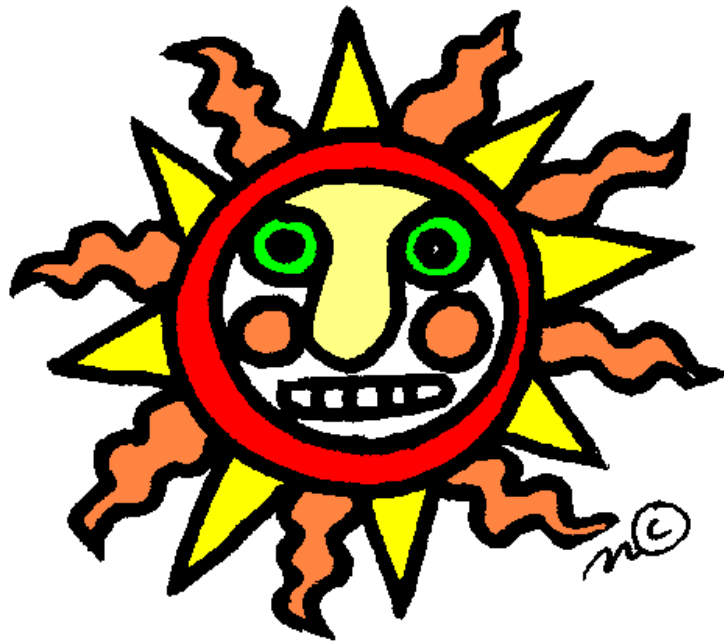


# SunSafe in the Middle School Years



## Peer Group Manual



## Project Background

*SunSafe in the Middle School Years* was a research project aimed at improving sun protection in middle school students. Funded by the National Cancer Institute and directed by pediatrician, Ardis Olson, M.D., the project worked in 10 communities in VT and NH. Since reducing sun exposure may prevent 90% of skin cancers, the SunSafe Project worked with schools, coaches, town recreation programs, parents, and health care providers to improve middle school students' sun protection behaviors.

Middle school is an important time to work with adolescents since they are beginning to establish their own health habits. However, they still willing to listen to adult's advise and they are still influenced by the role model set by parents, teachers and coaches.

### **Why middle school students?**

- Only 35% of middle school students protect themselves from sun damage
- 75% of teens had sunburns in the previous summer
- 1 or more blistering sunburns before age 20 doubles the risk of melanoma
- Young teens start to use artificial tanning lights
- Children this age start taking responsibility for their health and establish lifetime habits

### **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.
- The sun team mentor(s) is an important role model for participants.
- Promoting healthy behavior helps kids develop habits that will help them have a healthier life

# Poster Contest Activity

## Goal

Promote sun protection messages

- Rub it on (use UVA/UVB sunscreen whenever outside)
- Cover up (wear protective clothing)
- Use your head (wear a hat)
- Grab sunglasses (wear UVA/UVB sunglasses)
- Seek shade (during hot part of day)

## Supplies

11 x 14 inch poster board (optional)

Poster contest rules (handout)

Old magazines or other art supplies (optional)

## Resources

Websites

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

<http://www.cdc.gov/ChooseYourCover/>

<http://www.epa.gov/sunwise>

## Timeline *(about 5 weeks to complete)*

1 meeting to assign tasks

2 weeks from announcement of contest until due date

1 meeting of subcommittee to judge posters one or two days after due date

1 week to display posters in school

## Activity Tasks

Define rules and modify handout

Set due date

Identify contact person (probably Sun Team Mentor)

Announce poster contest over PA

Distribute contest information and supplies

Collect completed posters

Assign a number to each poster to protect anonymity

Judge posters

Notify winner and distribute prizes

Announce contest winners over PA

Notify local paper about contest and name winners (optional)

Display all posters in school -- ribbons on winning posters

# TGIF Sun News Activity

## Goal

Deliver a sun safe message with the weekend's weather forecast. Include the UV Index to teach students and teachers how to monitor solar radiation. Use interesting and informative bits of information (trivia) that encourage your peers and your teachers to protect themselves from the sun. Think about your audience. Who is hearing your message -- students, teachers, coaches, other adults?

## Supplies

Computer with access to Web  
Worksheet

## Resources

Local Weather Report  
[www.weather.com](http://www.weather.com)  
<http://www.sunsafety.org/>  
<http://www.cdc.gov/ChooseYourCover/>

## Timeline (4-6 weeks)

Announcements made on Friday for four-six consecutive weeks

- Research forecast and write announcement each week - 15-20 minutes
- Read announcement each Friday - about 10 minutes

## Activity Tasks

- √ Identify start date and final date
- √ Make arrangements to use school PA system
- √ Identify students who will research weather report and write announcement each week
- √ Identify students who will announce 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's weather forecast

- Weather -- sunny, cloudy, etc
- Temperature -- high and low
- UV Index
- SunSafe Message - use simple action suggestion  
Link to school activity if possible
- Trivia -- fun bit of information about harmful effects of sun exposure to motivate sun safe behaviors

Keep it simple!

### Resources

UV information

[www.epa.gov/sunwise/uvindex/index.html](http://www.epa.gov/sunwise/uvindex/index.html) (Environmental Protection Agency)

<http://www.weather.com/> (The Weather Channel)

Additional facts

<http://www.sunsafety.org/> (National Coalition for Skin Cancer Prevention)

<http://www.cdc.gov> (Centers for Disease Control and Prevention)

Information

**Saturday**

UV Index

(HI) \_\_\_\_\_ (LO) \_\_\_\_\_

Forecasted Temperatures

Sunny \_\_\_\_\_ Rain \_\_\_\_\_

Cloudy Partly cloudy \_\_\_\_\_

Trivia

\_\_\_\_\_

\_\_\_\_\_

Sun Message

\_\_\_\_\_

\_\_\_\_\_

**Sunday**

UV Index

(HI) \_\_\_\_\_ (LO) \_\_\_\_\_

Forecasted Temperatures

Sunny \_\_\_\_\_ Rain \_\_\_\_\_

Cloudy Partly cloudy \_\_\_\_\_

Trivia

\_\_\_\_\_

\_\_\_\_\_

Sun Message

\_\_\_\_\_

\_\_\_\_\_

**The Weather Report**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## 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 11am to 3pm. If your activities take you outside, remember to use sunscreen with an SPF of 15 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.

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.

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 [www.epa.gov/sunwise/uvindex/index.html](http://www.epa.gov/sunwise/uvindex/index.html).

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 in order 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.

[www.aad.org/ss99/sunsafety.html](http://www.aad.org/ss99/sunsafety.html) - a website that provides information on the three forms of skin cancer (basal cell, squamous cell, and melanoma)

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 in an attempt 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 actually, 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 one can stay out in the sun without getting burned. But remember that SPF only measure protection against UVB, and not UVA.

*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 3pm 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.

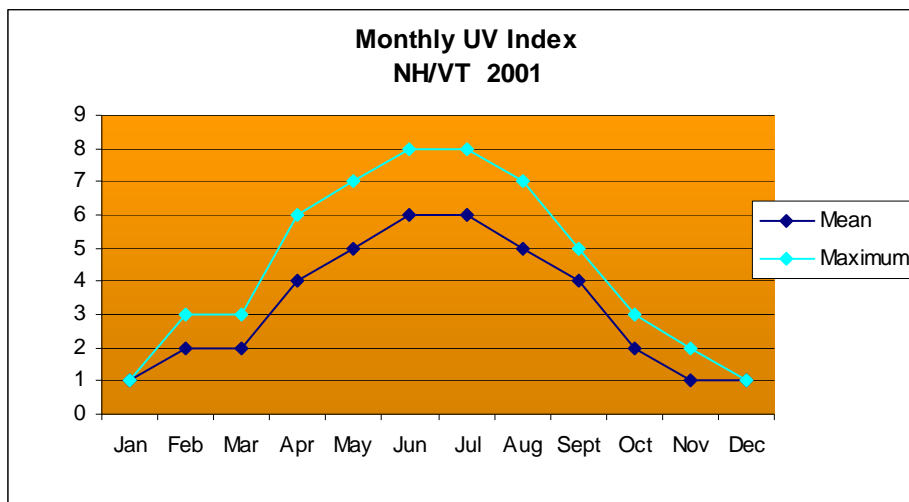
## The UV Index

The ozone shields the earth from harmful UV radiation. 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 Index predicts the intensity of UV radiation on a scale of 0 to 10+, where 0 indicates a minimal risk of overexposure and 10+ means a very high risk. Check the UV Index each day to plan for adequate protection against the sun's radiation.

UVI	Exposure Level	Minutes to Skin Damage
0, 1, 2	Minimal	More than 60 minutes to skin damage
3, 4	Low	45 minutes to skin damage
5, 6	Moderate	30 minutes to skin damage
7, 8, 9	High	15 minutes to skin damage
10 +	Very High	Less than 10 minutes to skin damage

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 15 minutes on sunny days in late April or early September.



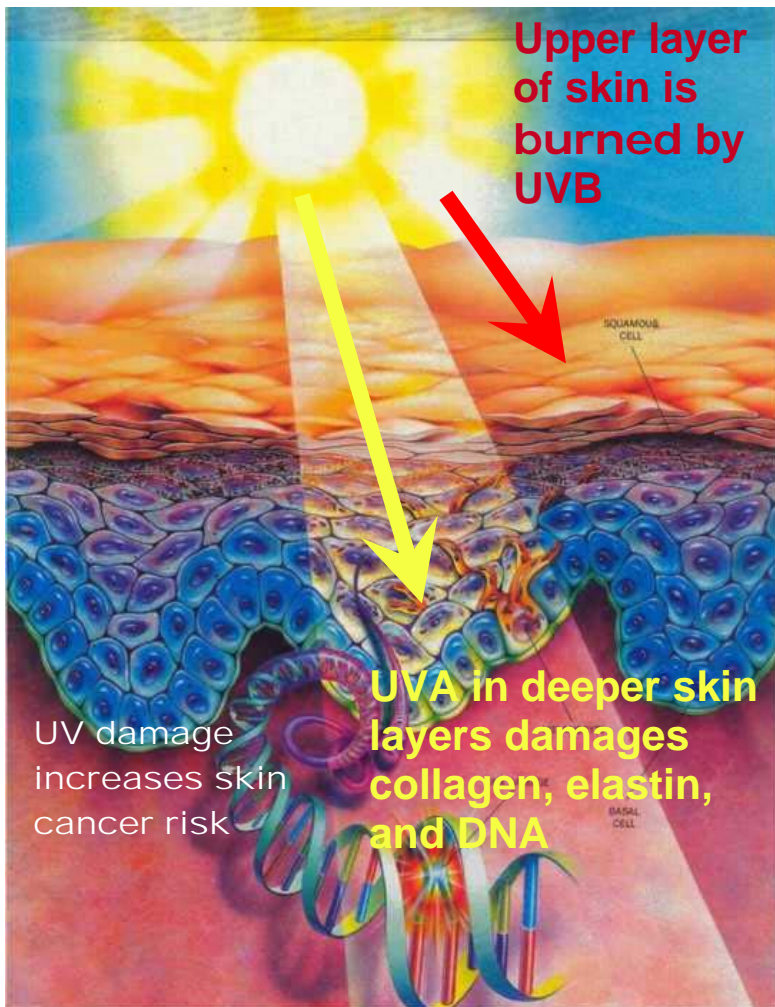
## SUNSCREENS

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 wear a UVA/UVB sunscreen with an SPF of 15 or greater on skin exposed to the sun.

- ❖ Always buy sunscreen with an SPF (Sun Protection Factor) of 15
  - Be sure to get one that protects against both UVA and UVB
  - The ingredients do degrade over time so be sure the bottle of sunscreen is not more than a year old
- ❖ Apply 20-30 minutes before going outside to give your sunscreen time to penetrate your skin and protect your cells
  - Pay particular attention to lips, ears, back of neck and tops of feet
  - Remember to apply enough sunscreen to cover well.
- ❖ Reapply every 2 hours
  - Sunscreens labeled as "sport, waterproof, water resistant" are not more effective and must also be reapplied

## How do UVA/UVB rays damage skin?



UVA and UVB rays make it through our atmosphere

UVB rays cause sunburns.

UVA rays go deeper in the skin damaging the skin structure, leading to wrinkles.

All UV rays damage skin, increasing the risk of skin cancer

## Sun Protection Facts

- Sun damage is cumulative so UV damage from childhood leads to skin problems.
- Ninety percent (90%) of skin cancer can be attributed to sun exposure.
- Just one sore blistering sunburn during childhood doubles the risk of skin cancer later in life.
- Regardless of skin color, *everyone* who has excessive unprotected UV exposure is at risk to get skin cancer.
- Ultraviolet (UV) rays are the harmful rays from the sun that can damage our skin and eyes.
- Intensity of UV rays varies by season - in NH and VT UV exposure in spring and fall is similar to exposure during the summer. It does not have to be hot for skin damage to occur.
- UV rays penetrate clouds and haze - although more slowly, skin burns occur on cloudy days.
- UV rays also reflect on water, sand, concrete, snow and ice increasing their intensity. Be especially careful when outside in reflecting conditions.
- Excessive UV exposure can cause premature aging of the skin, cataracts, skin cancers, and immune system suppression. *Wrinkles* are from UV damage, any dermatologist or plastic surgeon will tell you most of the damage they see is from excessive UV rays.
- It may take only 10-15 minutes to burn during the sun's peak hours. The sun's peak hours are 11am - 3pm.
- Sunscreen contains chemicals that absorb ultraviolet rays.
- Sunblocks are zinc or titanium oxide that actually block UV rays.
- When you apply sunscreen to your skin it becomes an invisible protective layer, a shield - almost like the ozone layer around the earth.

- All sunscreen is made of chemicals that break down when exposed to the sun or water or sweat. Reapply it about every 2 hours.
- A tan does not protect your skin from getting burned. A dark tan gives about the same protection as sunscreen with an SPF of 4.
- Practicing sun safe behaviors when young is the first step in reducing the chances of getting skin cancer later in life.

**SunSafe in the Middle School Years**

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