



# Fostering Health & Wellness Through SunAWARE™ Actions, Grades 6-8

## Curriculum Team

Clair Lombardo BS, MEd.

Linda Belocas BS, MEd.

Linda Redding BS, MLIS

Maryellen Maguire-Eisen RN, MSN

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## **National Health Education Standards Alignment with the SunAWARE™ Program:**

The National Health Education Standards (NHES) were developed to establish, promote, and support health-enhancing behaviors for students in all grade levels—from pre-Kindergarten through grade 12. The NHES provides a framework for teachers, administrators, and policy makers in designing or selecting curricula, allocating instructional resources, and assessing student achievement and progress. Importantly, the standards provide students, families and communities with concrete expectations for health education.

The Children’s Melanoma Prevention Foundation’s SunAWARE™ Program directly aligns with the National Health Education Standards, allowing for easy, justifiable implementation into educational programs to support youth health.

The overarching goal of the SunAWARE™ Program is to provide students with the information and skills needed to identify the relationship between safe sun protection practices and the reduction of the risk of skin cancer, to enhance and promote personal health.

**NHES Standard - 1** – Students will comprehend concepts related to health promotion and disease prevention to enhance health.

**NHES Standard 2** - Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.

**NHES Standard - 3** - Students will demonstrate the ability to access valid information and products and services to enhance health.

**NHES Standard 5** - Students will demonstrate the ability to use decision-making skills to enhance health.

**NHES Standard 7** - Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

Specific Performance Indicators for the Standards listed above will be referenced within the lesson sequence.

### **Goal:**

Through information and awareness activities, middle school students will understand the need for protection from ultraviolet radiation and choose to integrate the SunAWARE™ action steps into their daily life, thereby reducing the risk and incidence of skin cancer.

**Objectives:**

1. The student will describe the three different ultraviolet radiation wavelengths and the factors that affect their intensity.
2. The student will identify inherent and acquired risk factors that affect an individual's chance of developing skin cancer.
3. The student will identify the physical effects of UV radiation on skin and eye health.
4. The student will identify proven methods of sun protection.
5. The student will define the five action steps in the SunAWARE™ acronym.

**Materials:** globe, UV Index (EPA), UV Apps, UV bracelet, sun protective gear (hats, shirts, sunglasses, umbrella), sunscreen (lotion, spray, lip balm, eye stick), and measuring glass.

**Visuals:**

- UV Rays illustration
- Shadow Rule illustration
- Skin Types chart
- Body Map
- Watch Your Back illustration
- Peer illustration
- Sunscreen Label illustration

**Vocabulary:** ultraviolet radiation (UV rays), ozone layer/depletion, Solstice, pigmentation, melanin, melanocyte, mole, nevus, cumulative, sporadic, photokeratitis, cataract, ocular, melanoma, basal cell carcinoma, squamous cell carcinoma, UPF, SPF, Broad Spectrum, Water Resistance.

**Opening Motivator:** How many of you have ever experienced a sunburn?

**Lesson Sequence:****I. Understanding Ultraviolet Radiation (UVR)<sup>a,b,c</sup>**

1. Using the UV Rays illustration show the three different ultraviolet radiation wavelengths and discuss the effect that the ozone layer has on their intensity. Describe skin changes related to overexposure to UVA and UVB radiation.
2. Use an earth model to demonstrate variation in UV intensity caused by Earth's tilt and planetary movement including rotation and revolution. Include concepts of seasons, time of day, weather, ozone depletion, altitude, latitude, and surface characteristics.
3. Introduce high- and low-tech UV monitoring tools including the UV Index, UV Apps, UV detecting bracelet, and Shadow Rule.
4. Discuss the positive and negative health implications of exposure to UV radiation from natural and artificial sources, including vitamin D metabolism, mental health, and skin cancer.

(<sup>a</sup> NHES I: PI 1.8.3 – Students will describe how the environment can impact risk of sun damage.)

(<sup>b</sup> NHES 2: PI 2.8.6 - Students will describe ways that high-tech and low-tech tools, such as UV Index Apps, can be used to track UV levels to avoid overexposure and ensure appropriate UV protection.)

(<sup>c</sup> NHES1: PI 1.8.8- Students will be able to identify the deleterious short term and long term effects of overexposure to UV radiation on health.)

## II. Understanding Skin Sensitivity<sup>d</sup>

1. Introduce the concept of pigmentation, explaining the role of the melanocyte in producing melanin in the skin and eyes. Describe melanin's role in protecting the skin from overexposure to UV radiation.
2. Using the Skin Types Chart describe the five different skin types including degree of skin pigmentation and skin reaction to UV radiation overexposure.
3. Define sun sensitivity as related to skin color, eye color, freckling tendency, number of moles and characteristics of normal and atypical moles.
4. Use UV photographs to illustrate the impact of the sun on the face, introducing the concept that freckles develop at sites of *cumulative* sun exposure and moles developing at sites of *sporadic* exposure.
5. Describe the characteristics of an atypical mole. Illustrate how a pencil eraser can be used to evaluate size and diameter.
6. Illustrate how a Body Map can be used to track location and changes in moles over time.

(<sup>d</sup>NHES 5, PI 5.8.4- Students will identify how skin color and skin reaction to UV radiation, as described for each skin type in the Fitzpatrick Scale, can predict potential outcomes from unprotected sun exposure.)

## III. Recognizing Skin Cancer<sup>e,f,g,h</sup>

1. Use the Watch Your Back illustration to demonstrate the concepts of new, different, changing, and persistent in evaluating skin growths. Describe how these terms can be applied to skin cancer assessment.
2. Explore risk factors for skin cancer including skin type, sunburn history, family history, personal history, indoor tanning history, mole count, etc.
3. Identify the two most common types of skin cancer: non-melanoma (basal cell, squamous cell) and melanoma.
4. Discuss acronyms used to help recognize changes associated with melanoma and non-melanoma skin cancer:
  - PEER acronym for non-melanoma skin cancer recognition (basal and squamous cell skin cancer) including **P**ersistent, **E**nlarging, **E**asily irritated, and **R**ecurrent.
  - ABCDE acronym for melanoma recognition including **A**symmetrical, **B**order irregular, **C**olor uneven, **D**iameter larger than an eraser head, and **E**volving.

(<sup>e</sup> NHES1: PI 1.8.9- Students will be able to identify health consequences from unhealthy behaviors including unprotected UV exposure and indoor tanning on health.)

(<sup>f</sup> NHES1: PI 1.8.4 -Students will describe how a family history of skin cancer can impact personal skin cancer risk.)

(<sup>g</sup> NHES3: PI 3.8.4 -Students will demonstrate an understanding of how to employ skin assessment acronyms to recognize potential signs of skin cancer.)

(<sup>h</sup> NHES 5: PI 5.8.2 -Students will demonstrate when it is appropriate to use decision making in consulting a parent or health care professional regarding skin changes.)

#### IV. Proven Methods of Sun Protection<sup>i,j,k</sup>

1. Introduce the concept of sun protective gear including regular and specialized clothing and sunglasses. Define Ultraviolet Protection Factor (UPF), a rating system for sun protective clothing. Describe how sunglasses protect the inner and outer eye from sun damage and ocular disease.
2. Demonstrate the variation in degrees of sun protection provided by various hats, shirts, bathing suits, and sunglasses.
3. Introduce the concept that sunscreen is an over-the-counter medication controlled by the Food and Drug Administration with a recommended dose and frequency of application. Describe handful dosing concept for ease of calculation of sunscreen needed to cover entire body.
4. Using the Sunscreen Label illustration review definition of terms including: Sun Protection Factor (SPF), broad spectrum, water resistance, dose, reapplication and expiration date.
5. Discuss pros and cons of sunscreen formulations including lotions, creams, spray-on, and lip balm.
6. Using UV photographs show how proper sunscreen application appears on the skin. Explain that chemical sunscreens absorb or filter UV rays therefore appearing black on the skin. Reinforce that sunscreen creates a barrier between the skin and the UV rays and that the higher the UV the faster sunscreen depletes.
7. Explore the impact of culture and trends on fashion and their impact on sun exposure levels.
8. Discuss the role of media and peer influences on consumer choices and behaviors.  
(<sup>l</sup> NHES 3: PI 3.8.1 -Students will demonstrate an ability to read sunscreen and sun protection gear labels to determine the validity of the health product.)  
(<sup>j</sup> NHES 3: PI 3.8.5 -Students will identify how to locate appropriate sun protection products.)  
(<sup>k</sup> NHES 2: PI 2.8.2 -Students will describe the impact of culture on the use of different sun protection products and desire to appear tan.)

#### V. SunAWARE™ Acronym<sup>l,m,n,o,p</sup>

Review the rationale and significance of each action step in the “AWARE” acronym as it pertains to primary (sun protection) and secondary (early detection) skin cancer prevention.

**A**void *unprotected* exposure to sunlight, seek shade, and never indoor tan.

**W**ear sun protective clothing, including a long-sleeved shirt, pants, a wide-brimmed hat, and sunglasses year-round.

Apply recommended amounts of broad-spectrum sunscreen with a sunburn protection factor (SPF)  $\geq 30$  to all exposed skin and reapply every two hours, or more often if needed.

Routinely examine your whole body for changes in your skin and report concerns to a parent or healthcare provider.

Educate your family and community about the need to be SunAWARE™.

(<sup>l</sup>NHES 5: PI 5.8.3 -Students will describe when it is appropriate to collaborate on decision making as it pertains to the development of new or changing skin growths.)

(<sup>m</sup> NHES 5: PI 5.8.6 -Students will describe how they can choose health alternatives when making a decision about UV exposure from natural or artificial sources.)

(<sup>n</sup>NHES 7: PI 7.8.1-Students will demonstrate an understanding of the importance of taking personal responsibility for appropriately using sunscreen, eye protection, and other sun protection gear.)

(<sup>o</sup>NHES 7: PI 7.8.2 -Students will describe how the five action steps in the SunAWARE acronym will maintain health of themselves and others.)

(<sup>p</sup> NHES 7: PI 7.8.3 -Students will demonstrate an understanding how practicing the five action steps in the SunAWARE acronym will reduce the risk of skin cancer for themselves and others.)

### **Reflection**

1. Thinking back on a previous sunburn incident, how would you now protect yourself from overexposure?
2. Now that you know that UV rays are proven to cause cancer, how do you feel about family members visiting tanning salons?
3. How would you deal with negative peer pressure regarding sun protection now?

### **Closure**

1. Review acronym “AWARE” in SunAWARE™.
2. Emphasize that the “E” is for “educating others.”
3. Enlist students as SunAWARE™ Ambassadors charged with educating their families and friends about sun protection and skin cancer prevention.

### **Special Needs Adaptations**

1. For visually impaired students, use large print handouts.
2. Provide Paraprofessional Aides with guidance for supporting the SunAWARE™ lesson in the school environment.
3. Use visuals above as well as earth model, flashlight, UPF clothing, to reinforce lesson.
4. Support active involvement by special needs students in the lesson presentation.
5. Select from audiovisuals listed in Teacher Resources.

### **Plan for Independent Practice**

1. Enright Melanoma Foundation’s Apply, Cover, and Enjoy sun safety tutorial available at [www.ApplyCoverEnjoy.org](http://www.ApplyCoverEnjoy.org)

2. Science NetLinks:

*The Skin Deep Project*

<http://sciencenetlinks.com/collections/skin-deep-project/>

### **Extensions**

1. [SunWise Toolkit](#) from National Environmental Education Foundation
2. [SunSmart U - Rays Awareness: Preventing Skin Cancer Lesson Grades 6-12](#)

### **Assessment Based on Objectives**

1. Conduct an informal survey of students regarding sunburn and tanning incidence following vacations.
2. Utilize the SunAWARE™ Grades 6-8 Post-Test to assess knowledge of key topics: ultraviolet radiation, skin sensitivity, proven methods of sun protection, skin cancer recognition, and the SunAWARE™ acronym.
3. Evaluate student responses to open-ended “reflection” questions.
4. Evaluate student performance on independent practice sheets, extension lessons and activities.

### **Additional Cross-curricular Connections**

1. Math: use of math factorials as they relate to SPF calculations.
2. Language Arts: use of SunAWARE™ books for discussion and as writing prompts.
3. Physical Education
  - Use of sun protection lessons to reinforce safe sun practices for sports and outdoor activities, available at:  
<http://sciencenetlinks.com/lessons/skin-and-sports/>
  - Sports and recreation ideas and initiatives from the Collette Coyne Melanoma Awareness campaign available at:  
[http://www.ccmac.org/index.php?option=com\\_content&view=article&id=148&Itemid=4](http://www.ccmac.org/index.php?option=com_content&view=article&id=148&Itemid=4)

### **Teacher Resources**

#### **Books:**

Barrow, Mary Mills and Barrow, John F. *Sun Protection for Life*. New Harbinger Publications, Oakland: 2005.

<https://www.melanomaprevention.org/index.php/14-entire-site/shop?layout=&highlight=WyJzaG9wll0=>

Barrow, Mary Mills, and Maguire-Eisen, Maryellen. *Danger at Graves Light*. Ugly Dog Publications, 2012, Available for free download at

<https://www.melanomaprevention.org/index.php/14-entire-site/shop?layout=&highlight=WyJzaG9wll0=> for IBooks and Kindle.

Barrow, Mary Mills, and Maguire-Eisen, Maryellen. *Lake Vacation*. Langdon Street Press, Minneapolis: 2008.

<https://www.melanomaprevention.org/index.php/14-entire-site/shop?layout=&highlight=WyJzaG9wll0=>

Barrow, Mary Mills, and Maguire-Eisen, Maryellen. *Prom Prep 101*, Ugly Dog Publications, 2013. Available for free download at <https://www.melanomaprevention.org/index.php/14-entire-site/shop?layout=&highlight=WyJzaG9wll0=> for IBooks and Kindle.

Shanny, Jane and Maguire-Eisen, Maryellen. *Wiseheart Saves the Dawn*: Ugly Dog Publications, 2013. Available for free download at <https://www.melanomaprevention.org/index.php/14-entire-site/shop?layout=&highlight=WyJzaG9wll0=> for IBooks and Kindle.

#### **Videos:**

SunAWARE™ Rap

<https://www.youtube.com/watch?v=JYNCg1Zy2Og&feature=youtu.be>

Holderness Family Sun Dance

[https://www.youtube.com/watch?time\\_continue=2&v=SvHCxr4QkFQ](https://www.youtube.com/watch?time_continue=2&v=SvHCxr4QkFQ)

SunAWARE™ Dance Craze

<https://www.youtube.com/watch?v=o-00WKZ8ctY&feature=youtu.be>

How the Sun Sees You

[https://www.youtube.com/watch?time\\_continue=9&v=o9BqrSAHbTc](https://www.youtube.com/watch?time_continue=9&v=o9BqrSAHbTc)

Glenna's Gift An in-depth look at indoor tanning and melanoma.

YouTube or at [www.melanomaprevention.org](http://www.melanomaprevention.org).

#### **Websites:**

- American Association for the Advancement of Science (AAAS)  
Science NetLinks Skin Deep Project: The Skin Deep Project introduces students in grades 6 through 12 to the science of skin, including its role in protecting the body from invading microbes, maintaining temperature, and sensing the environment.  
<http://sciencenetlinks.com/collections/skin-deep-project/>
- Center for Disease Control: Guidelines for Schools to Prevent Skin Cancer:  
[www.cdc.gov/mmwr/preview/mmwrhtml/rr5104a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5104a1.htm)
- Children's Melanoma Prevention Foundation: SunAWARE™ Curriculum, student and teacher resources, UV index, digital and print news items, professional publications:  
[www.melanomaprevention.org](http://www.melanomaprevention.org)
- Colette Coyne Melanoma Awareness Campaign: online public service announcements on tanning and melanoma: [www.ccmac.org](http://www.ccmac.org)



- Enright Melanoma Foundation Apply, Cover, Enjoy Program available at <https://www.enrightmelanomafoundation.org>
- Environmental Protection Agency UV Forecast <https://www.epa.gov/sunsafety>
- Melanoma Action Coalition, a consortium of melanoma prevention and education organizations, available at <http://www.melanomaactioncoalition.org>
- National Council for Skin Cancer Prevention, *Don't Fry Day* resources: [www.skincancerprevention.org/node/282](http://www.skincancerprevention.org/node/282)
- National Health Education Standards <https://www.cdc.gov/healthyschools/sher/standards/index.htm>
- Polka Dot Mama <https://polkadotmama.org/>
- Skin Cancer Foundation Rays Awareness Educational Program available at <http://www.skincancer.org/prevention/education-program/rays-awareness>
- Sun Safety for Kids: Curriculum resource: [www.sunsafetyforkids.org/sunprotection/curriculum](http://www.sunsafetyforkids.org/sunprotection/curriculum)
- World Health Organization
  - Health Topics: UV Radiation [www.who.int/topics/ultraviolet\\_radiation/en/](http://www.who.int/topics/ultraviolet_radiation/en/)
  - *Sun Protection and Schools* <https://www.who.int/uv/publications/en/sunprotschools.pdf>

**Articles:**

The Community Guide: Skin Cancer: Primary and Middle School-Based Interventions: Available at: <https://www.thecommunityguide.org/findings/skin-cancer-primary-and-middle-school-based-interventions>

The Important Role of Schools in the Prevention of Skin Cancer, Gery P. Guy, Jr, PhD, MPH, Dawn M. Holman, MPH, and Meg Watson, MPH (2018) Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6048593/>

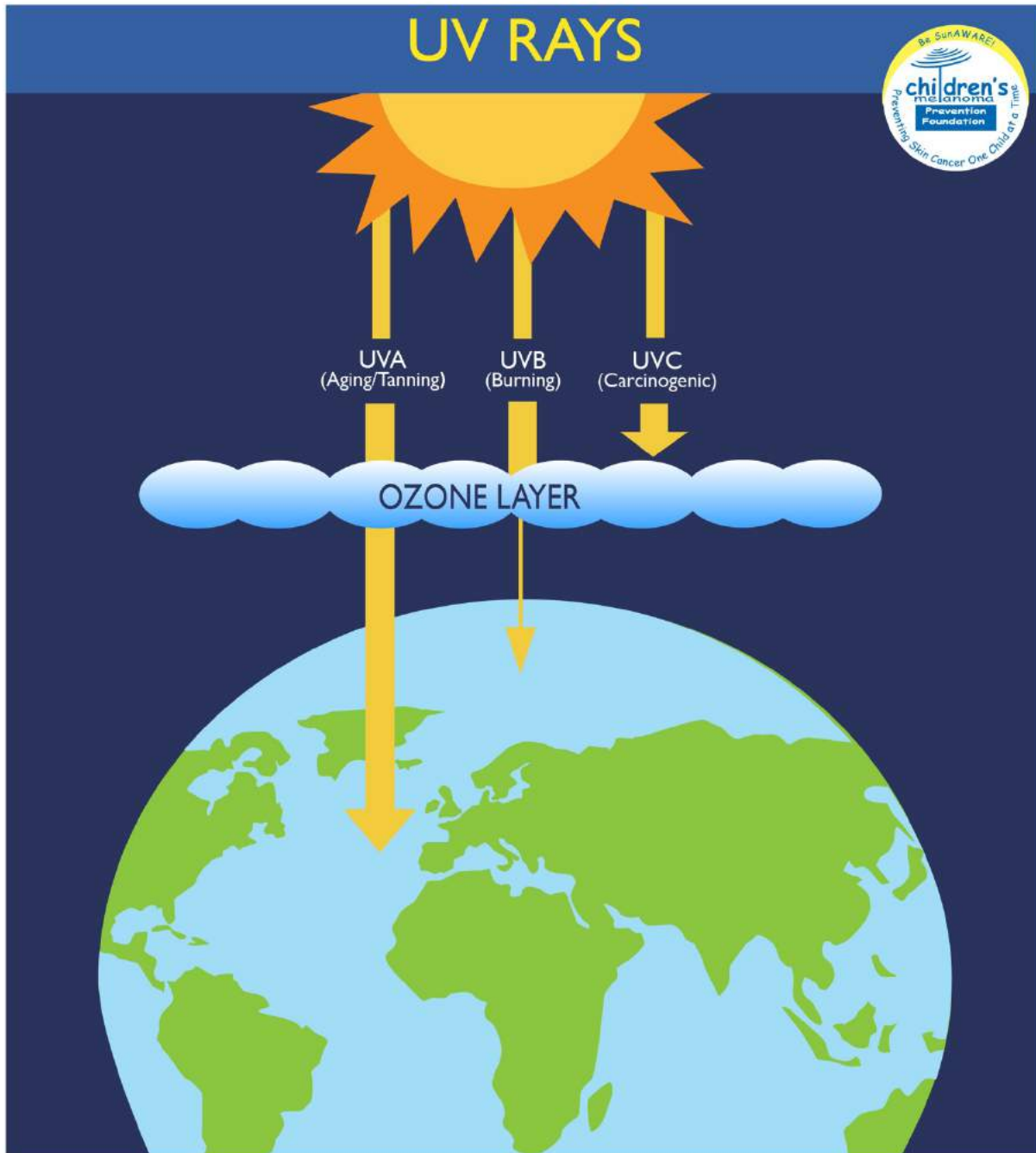
Sun Protection and Schools: How to Make a Difference. Available from the World Health Organization at <https://www.who.int/uv/publications/en/sunprotschools.pdf>

Is Sunscreen Safe and Effective for Your Child, OPED, Maryellen Maguire-Eisen, published May 20, 2019. Available at: <https://patch.com/massachusetts/hingham/skin-protecton-remains-critical-amid-extended-fun-sun>

Skin Cancer: A Growing Health Problem for Children. Seminars in Oncology Nursing, Vol 29: 206-213,2013. Maguire-Eisen, M.

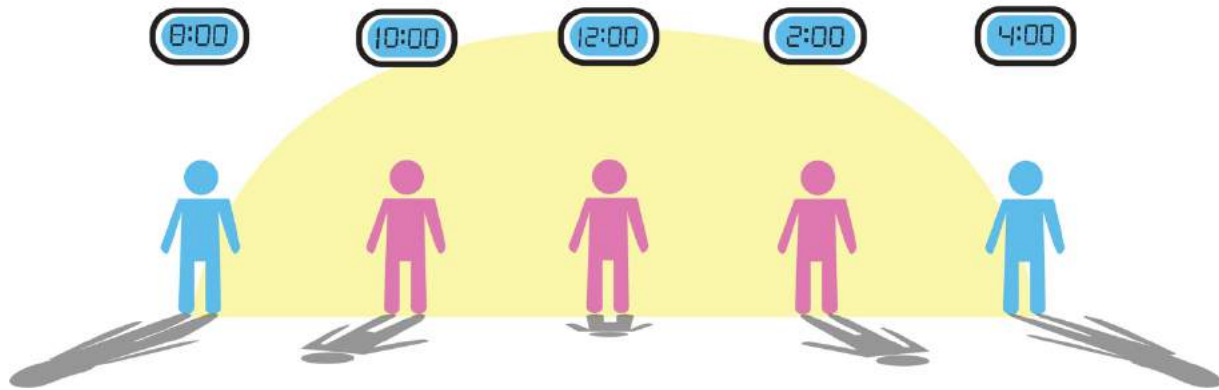
Ultraviolet Radiation Exposure and Its Impact on Skin Cancer Risk. Seminars in Oncology Nursing, Vol 32 (3): 241-254, 2016. Watson, M, Holman, D., Maguire-Eisen, M.

Addendum 1















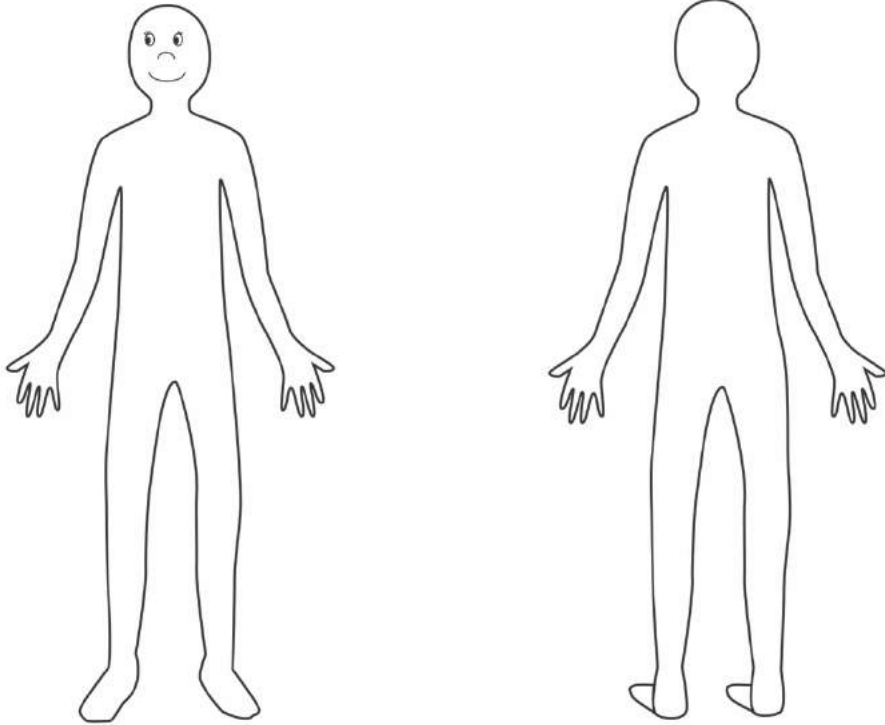
**THE SUN'S UV RAYS ARE STRONGEST WHEN...  
...YOUR SHADOW IS SHORTER THAN YOU**



**SKIN TYPES**

<p><b>TYPE 1</b> Always Burns, Never Tans</p>		
<p><b>TYPE 2</b> Burns Easily, Tans Minimally</p>		
<p><b>TYPE 3</b> Sometimes Burns, Slowly Tans</p>		
<p><b>TYPE 4</b> Burns Minimally, Always Tans</p>		
<p><b>TYPE 5</b> Rarely Burns, Deeply Pigmented</p>		

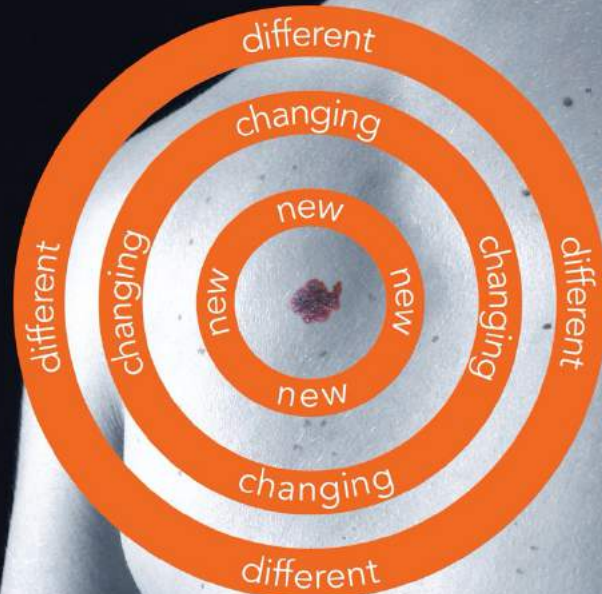
## BODY MAP



**NAME:** \_\_\_\_\_



# Watch your back.



**But if you can't, find someone who can.**

Addendum 6

