



Fostering Health and Wellness
Through SunAWARE™, Grades K-2
www.melanomaprevention.org/resource_center.html

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Massachusetts Frameworks, Strands, and Learning Standards Addressed:

I. Comprehensive Health Curriculum:

A. Physical Health Strand

1. Growth and Development (Pre K-12): Students will learn the basic characteristics of physical growth and development, including body functions and systems throughout the life cycle, and will acquire skills to promote and maintain positive growth and development.

B. Safety and Prevention Strand

1. Disease Prevention and Control (Pre K-12): Students will learn the signs, causes, and treatment of chronic and communicable diseases, and will gain skills related to health promotion, disease prevention, and health maintenance.

C. Personal and Community Health Information Strand

1. Consumer Health and Resource Management (Pre K-12): Students will acquire the knowledge and skills necessary to obtain, manage, and evaluate resources to maintain physical and mental health and well being for themselves, their family, and the community.
2. Ecological Health (Pre K-12): Students will gain knowledge of the interdependence between the environment and physical health, and will acquire skills to care for the environment.
3. Community and Public Health (Pre K-12): Students will learn the influence of social factors on health, the contribution of public health, and will gain skills to promote health and to collaborate with others to facilitate healthy, safe, and supportive communities.

II. Science:

A. Earth and Space Science Learning Standards:

1. Weather: Students will describe the weather changes from day to day and over the seasons.
2. The Sun as a Source of Light and Heat: Students will recognize that the sun supplies heat and light to the earth and is necessary for life.
3. Periodic Phenomena: Students will identify some events around us that have repeating patterns, including the seasons of the year, day and night.

B. Life Science (Biology)

1. Characteristics of Living Things: Students will recognize that animals (including humans) and plants are living things that grow, reproduce, and need food, air, and water.
2. Heredity: Students will describe ways in which many plants and animals closely resemble their parents in observed appearance.
3. Living Things and Their Environment:
 - Students will recognize that people and other animals interact with the environment through their senses of sight, hearing, touch, smell, and taste.
 - Students will identify the ways in which an organism's habitat provides for its basic needs... animals require food, water, air, and shelter.

Goal:

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

Objectives:

1. Students will understand how the sun's rays (ultraviolet radiation) can be both helpful and harmful to humans.
2. Students will learn how weather, time of day, and the seasons impact sun exposure.
3. Students will understand that human beings inherit different skin types and that this affects their sensitivity to the sun.
4. Students will recognize the importance of parental guidance and school supervision regarding ultraviolet radiation exposure.
5. Students will be introduced to proven methods of sun protection.
6. Students will be introduced to the SunAWARE™ acronym to reinforce safe sun behaviors.

Materials: UV Frisbee, flannel board kit (planets, figures, sun protective gear, etc.), sunscreen, *Otto Goes to the Beach* by Todd Parr (book)

Vocabulary: ultraviolet radiation (UV rays), ozone layer/depletion, orbit, reflection, shadows, skin coloring (pigmentation), moles, freckles

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

Special Needs Adaptations

1. Use large print for handouts.
2. Provide Paraprofessional Aides with guidance to reinforce lesson in school environment.
3. Use visuals to reinforce lesson such as earth model, flashlight, and sun protective gear.
4. Involve special needs students interactively in lesson presentation.
5. Select from DVDs and CDs listed in "Teacher Resources: Audiovisuals."
6. Partner special needs and non-special needs students for activities.

Lesson Sequence:**I. Understanding Sunlight and its Effect on Human Life**

1. Using the felt board kit with sun and planets, represent the sun and its rays reflecting on the Earth as it spins on its axis and orbits the sun. Include concepts of seasons, time of day, altitude, reflection, ozone layer, weather, and "shadow rule."
2. Introduce concept of positive and negative aspects of sun's rays. Ask children to volunteer examples of both for a chart.
3. Using the UV Frisbee, demonstrate characteristics of different types of ultraviolet rays.
4. Apply sunscreen to a small area of the UV Frisbee to show the "filtering" effect of sunscreen.

II. Understanding Skin Sensitivity

1. Using a felt board and figures, introduce concept of pigmentation (skin and eye color).
2. Using felt animals illustrate the natural protection of hair, scales, feathers, etc.
3. Explore with students the impact of the sun's rays on their skin including tans, sunburns,

freckles, and moles.

III. Proven Methods of Sun Protection

1. Using the felt board kit, introduce the concepts of sun protective gear, including specialized clothing, hats, and sunglasses to protect skin and eyes from UV (ultraviolet radiation) exposure.
2. Using felt board hats, demonstrate why wide-brimmed hats offer the best protection.
3. Using felt board trees, awnings, building, etc., show how shade can protect us from excessive exposure to UV rays.
4. Discuss sunscreen labeling including Sunburn Protection Factor (SPF), broad spectrum, water resistance, dose (handful rule), and reapplication.

IV. SunAWARE™ Acronym

Review each action step in the “AWARE” acronym as it pertains to health and wellness.

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

Wear 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) ≥ 30 to all exposed skin and reapply every two hours, or as needed.

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

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

Closure

Emphasize that the “E” is for “educating others”. Enlist students as SunAWARE™ “ambassadors” charged with educating their families and friends about the need for sun protection.

Reflection

What will you tell your family that you have learned about being safe in the sun?

Assessment Based on Objectives

1. The SunAWARE™ K-2 Curriculum Post-Test available at:
http://www.melanomaprevention.org/resource_center.html
2. Performance on various practice sheets listed in “Teacher Resources”.
3. Informal follow-up with teachers regarding sunburn and tanning incidence following vacations.

Plan for Independent Practice

1. Sun Safety for Kids Activity Sheets
<http://www.sunsafetyforkids.org/resources/activitysheets/>

Extensions

1. EPA: SunWise Program Activities (Grades K-2)
http://www.epa.gov/sunwise/doc/sample_k-2.pdf

Additional Cross-curricular Connections

1. Math: recognition of number value as related to SPF labeling.
2. Language Arts: use of SunAWARE™ books as listed in *Teacher Resources: Books* for discussion and as writing and/or illustration prompts.
3. Physical Education: use of sun protection lessons to reinforce safe sun practices for sports, available at: <http://www.sciencenetlinks.com/lessons.php?DocID=445>.

Teacher Resources

UV Monitoring Program

Children's Melanoma Prevention Foundation provides schools with UV monitoring equipment including meter and reporting station. Foundation staff trains faculty to work with students to monitor UV intensity and report to school population. Obtain UV Index from our website at: <http://www.melanomaprevention.org>

Books:

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

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

Lehrer-Glickman, Lori. *Skin Sense: A Story About Sun Safety for Young Children*.

Naughton, Scott and Gus Naughton. *What Are These Spots on My Skin?* AuthorHouse, Bloomington: 2008.

Paar, Todd. *Otto Goes to the Beach*. Little, Brown and Company, New York: 2003.

Audiovisual

DVD: *The Sun Show*, Ages 6-8: <http://www.sunsafetyforkids.org/videos/>

DVD: *Space Science for Children*, Grades K-4. Available on loan from the Museum of Science, Boston. Available at: www.mos.org

DVD: *SunSmart America: Integrated Lessons for K-5*. Available from the Richard David Kann Foundation at <http://www.melanomafoundation.com/>

DVD: *SunWise: A Sun Safety Program for K-8*. View video on website at:

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

CD: *Dance Around the House*, Swingset Mamas. Available at: <http://www.swingsetmamas.com/>

Websites:

- Children's Melanoma Prevention Foundation: SunAWARE™ Curriculum, UV Index, news, articles and resources.
www.melanomaprevention.org
- U.S Environmental Protection Agency: SunWise Program for grades K-8.
http://www.epa.gov/sunwise/educator_resources.html
<http://www.epa.gov/sunwise>
- National Council for Skin Cancer Prevention: *Don't Fry Day* resources
<http://www.skincancerprevention.org/resources>
- Skin Cancer Foundation:
<http://www.skincancer.org/school/teacherresources>
- Sun Safety for Kids:
<http://www.sunsafetyforkids.org/index.html>
- Science NetLinks

- <http://www.sciencenetlinks.com/lessons>
- California Dept. of Public Health Skin Cancer Prevention Program
<http://www.cdph.ca.gov/programs/SkinCancer/Documents/Skin-Cancer-Mission.pdf>
<http://www.cdph.ca.gov/programs/SkinCancer/Pages/Schools.aspx>
- Skin Cancer Foundation: Activity Sheets
<http://www.skincancer.org/school/teacherresources>
- Center for Disease Control:
<http://www.cdc.gov/mmwr/PDF/RR/RR5104.pdf>
- World Health Organization: http://www.who.int/topics/ultraviolet_radiation/en/
- World Health Organization: Sun Protection: A Primary Teaching Resource:
<http://www.who.int/uv/publications/en/primaryteach.pdf>
- Sunny Days Healthy Ways: Grades K-5 Written Curriculum
http://www.sdhw.info/curriculum/1_grades_k-5_written.asp

Articles:

Demierre M, Maguire-Eisen M, Cabral H, et al., *A Sun Protection Community Intervention in Quincy Middle Schools: Insights from the Use of Ultraviolet Photography and its Impact on Sunburn*. Journal of the Dermatology Nurses' Association, 2009: Vol 1 (2): 111-118.

Maguire-Eisen M, Demierre M, Rothman K. *The ABC's of Sun Protection for Children*. Dermatology Nursing 2005: Vol 17, (6) 419-433.

Maguire-Eisen M, Demierre M. *Educating Teens and Parents in Effective Sun Safety*. Practical Dermatology, 2005: 2 (4) 39-45.

Maguire-Eisen M. *Risk Assessment and Early Detection of Skin Cancers*. Seminars in Oncology Nursing, 2003: Vol. 19, No. 1 (February), 43-51.