



## Grade 5 Lesson

### Unit 4 Sun Safety

#### Objectives/Goals

- Examine ultraviolet radiation and effects on the skin
- Examine the health risks associated with unprotected sun exposure.
- Determine strategies to protect against the harmful effects of the sun

#### Vocabulary

- Ultraviolet A Rays- UVA penetrates the skin more deeply than UVB and plays a major part in skin aging and wrinkling. Tanning booths primarily emit UVA and emit doses of UVA 12 times that of the sun.
- Ultraviolet B Rays- UVB rays have slightly more energy than UVA rays. They damage the DNA in skin cells directly, and are the main rays that cause sunburns. They are also thought to cause most skin cancers. <https://www.skincancer.org/prevention/uva-and-uvb>
- Epidermis—New skin cells are made here. It is also where melanin is made. Melanin is what gives skin its color.
- Dermis—It has nerves that help you feel sensations. It's also where sweat, oil, and goose bumps are made. It helps bring blood to your skin. It is also where hairs start.
- Subcutaneous—It connects the dermis to your muscles and bones and stores fat to help protect them from bumps and falls. It helps your blood vessels and nerve cells reach the rest of your body. This layer helps keep your body from getting too hot or cold. <http://www.scholastic.com/sunsafety/pdfs/teacherguide.pdf>
- Melanin is a chemical in the skin that protects it from sun damage by reflecting and absorbing UV rays. <https://kidshealth.org/en/kids/summer-safety.html?WT.ac=ctg#catout>

#### Materials

- Pre/Post-Test on Sun Safety
- Bow Tie to examine the health risks associated with unprotected sun exposure. (5.1.b)
- Safe Sidney. (5.2.a)

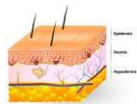
**Steps**

1. Introduce the topic of sun safety. Have hats, sun glasses, and sun screen available to peak the interest of the group.
2. Use the power point to pace the lesson
3. Pre-Test on Sun Safety. (Handout is below)

1. A baseball cap is more protective than a wide-brimmed hat. True False
2. You can be sunburned in the winter. True False
3. The sun's rays are strongest between 6 a.m. and 10 a.m. everyday. True False
4. When you are in the shade, you are always protected from the sun's rays. True False
5. All sunglasses protect your eyes against the sun's rays. True False
6. Sunscreen is not needed on cloudy days. True False
7. The sun's rays are most harmful when your shadow is shorter than you are. True False
8. You do not ever need to reapply sunscreen when you are outside. True False

<http://www.scholastic.com/sunsafety/pdfs/teacherguide.pdf>

3. Use the power point to teach the layers of the skin and ultraviolet radiation



Step 1-Layers of the skin

1. Epidermis—New skin cells are made here. It is also where melanin is made. Melanin is what gives skin its color.
2. Dermis—It has nerves that help you feel sensations. It's also where sweat, oil, and goose bumps are made. It helps bring blood to your skin. It is also where hairs start.
3. Subcutaneous—It connects the dermis to your muscles and bones and stores fat to help protect them from bumps and falls. It helps your blood vessels and nerve cells reach the rest of your body. This layer helps keep your body from getting too hot or cold.

<http://www.scholastic.com/sunsafety/pdfs/teacherguide.pdf>

Ultraviolet Rays A and B

- UVA
  - penetrates the skin more deeply than UVB.
  - It plays a major part in skin aging and wrinkling.
  - Tanning booths primarily emit UVA and provide 12 times of UVA exposure than that of the sun.
- UVB

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- The chief cause of skin reddening and sunburn
- Damages the epidermal layers. It plays a key role in the development of skin cancer and a contributory role in tanning and skin aging.
- <https://www.skincancer.org/prevention/uva-and-uvb>

### Step 2-Use the power point to teach the Health Risks of Unprotected Sun Exposure (5.1.b)

- Sunburn occurs when a person has been exposed to the *ultraviolet rays* of the sun for too long. (Show picture)
- People with blond or red hair and have light colored skin and light-colored eyes, tend to get a sunburn more quickly because they have less *melanin* than someone with dark eyes and skin because they have more melanin.

### Step 2- Use the power point to teach Sun Safety

- The rays of the sun are strongest and most harmful between 10 a.m. and 4 p.m. The sun's rays are strongest in the summer, but its rays can also be harmful in the winter.  
<https://www.skincancer.org/prevention/uva-and-uvb>
- Always wear sunscreen with a sun protection factor (SPF) rating of 30 or higher.
- Take breaks from the sun by going indoors or move to shady areas.
- Apply sunscreen 15 to 20 minutes before going out in the sun.
- The number rating on the sunscreen means how much longer you can stay in the sun without getting sunburned. Example SPF 30 means you can stay in the sun for 30 minutes without getting sunburned.
- Re-apply sunscreen every two hours for the best protection
- Where to apply sunscreen
  - tops of your ears
  - the back of your neck
  - the part in your hair
  - your face
  - the tops of your feet.

### Step 3- Use the power point to teach the other safety tips

- Wear clothing that you cannot see your hand through to block the sun's rays,
- Wear a wide brim hat or a baseball cap (make sure your ears have sunscreen!)
- Wear sunglasses that have UV protection. <https://kidshealth.org/en/kids/summer-safety.html?WT.ac=ctg#catout>

### Assessment Idea

- Bow Tie (5.1.b, 5.2.b)
- Sun Safe Sidney

### References

- <https://kidshealth.org/en/kids/summer-safety.html?WT.ac=ctg#catout>
- <http://www.scholastic.com/sunsafety/pdfs/teacherguide.pdf>

## Health Smart Virginia Lesson Plan

- <https://www.skincancer.org/prevention/uva-and-uvb>

### **Handout**

The next page includes a handout for the lesson. The handout is designed for print use only.

## What do you know about sun safety?

| <u>Question</u>   | <u>True</u> | <u>False</u> |
|---|-------------|--------------|
| 1. A baseball cap is more protective than a wide-brimmed hat.   |             |              |
| 2. You can be sunburned in the winter.  |             |              |
| 3. The sun's rays are strongest between 6 a.m. and 10 a.m. every day.   |             |              |
| 4. When you are in the shade, you are always protected from the sun's rays.   |             |              |
| 5. All sunglasses protect your eyes against the sun's rays.   |             |              |
| 6. Sunscreen is not needed on cloudy days.  |             |              |
| 7. The sun's rays are most harmful when your shadow is shorter than you are.  |             |              |
| 8. You do not ever need to reapply sunscreen when you are outside.  |             |              |
| <a href="http://www.scholastic.com/sunsafety/pdfs/teacherguide.pdf">http://www.scholastic.com/sunsafety/pdfs/teacherguide.pdf</a> |             |              |

## Bow tie

Directions: Write sun safety on the knot of the bow tie. In partners facing each other, write down and illustrate the health risks of being in the sun unprotected. Present to the class.



## Sun Safe Sidney

Directions: You are going out for the afternoon. The sun is hot and the sky is clear. You want to be sun safe and have fun. On the outline of the body, show where to apply sunscreen. Draw a hat and clothing that protects the face and body from the sun and UV sunglasses that protect the eyes.

