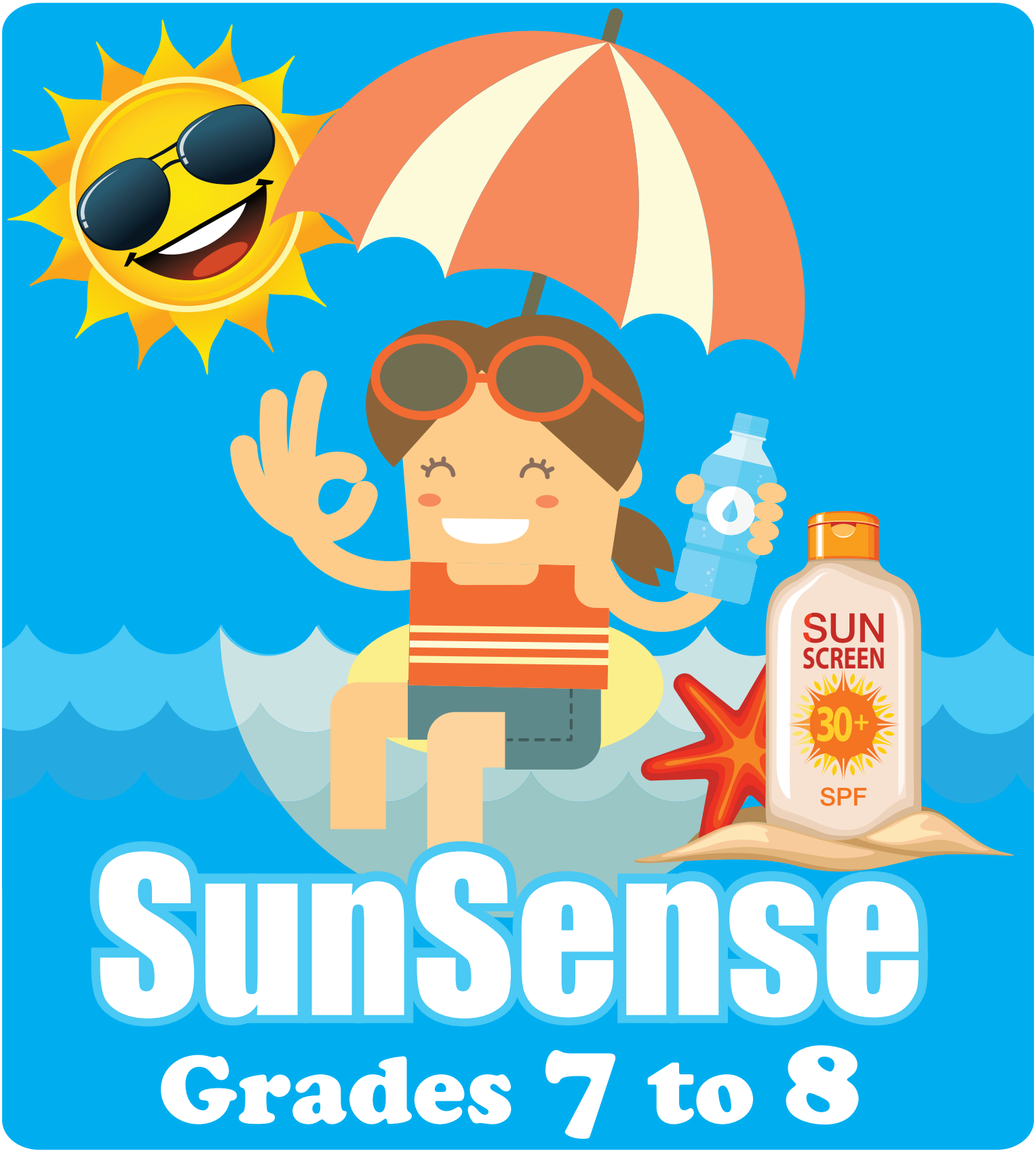

SunSense

Grades 7 to 8

The SunSense Program
is created and distributed by:

Canadian Cancer Society

SunSense Program Lesson Objectives

The Canadian Cancer Society's SunSense program is designed to educate people of all ages about the dangers of the ultraviolet radiation (UV rays) and to encourage people to follow the Canadian Cancer Society's recommended SunSense guidelines.

In order to keep participants thinking about sun safety past a single lesson, the SunSense UV bead bracelet activity is a part of the lesson plan. As a daily reminder of the presence of UV rays and the importance of using their SunSense, participants will be asked to wear their bracelets throughout the summer to keep reminding them to be safe while they are in the sun.

It is recommended to keep the lesson plan to 20 minutes in order to keep the participants' attention and focus. Activities are included in case you finish early.

At the end of the lesson plan, students will learn:

- The importance of the sun.
- The damaging effects of the sun.
- What ultraviolet rays are and the UV index.
- The SunSense Guidelines.
- The dangers of tanning beds

Helpful Presentation Tips

The lesson plans provided here are a suggested format to use. Please don't feel limited by these guidelines or that you need to include all the information in your lesson. Adapt the questions or wording to suit your teaching style and your audience in order to get the most out of the lesson and to form a better connection with the participants.

Introduce yourself and explain to students that the lesson will take about 20 minutes and that they will get to take part in making a sun safety craft as well as doing other fun activities when the lesson is finished.

This lesson plan includes many questions in order to avoid lecturing students about what is right or wrong and to involve the students as much as possible. This way, the information is coming from them and not only from you.

When asking questions, try to avoid yes or no answers and encourage students to give more detailed explanations. If you don't get the answers that you are looking for, try rephrasing the question.

Remember to use discretion based upon the age and maturity of the group. The information that is provided should be appropriate for most age groups but remember our intention is to educate and inform the children, not to scare them

If you require further information or have any questions please contact the Canadian Cancer Society toll-free at: 1-888-939-3333 or visit www.cancer.ca

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Grades 7 to 8 Lesson Plan

The Importance of the Sun

In the summer we spend a lot of time outside in the sun.

Q. What are some positive things that the sun does?
A. Provides light, heat, energy, helps our plants grow, gives us Vitamin D.

Q. What can happen if we get too much sun?
A. You can get sunburn, heat stroke or a tan.

Even a tan is considered skin damage. Accumulating skin damage over time, especially as a child, increases your chances of developing skin cancer.

Q. There are three main types of skin cancer. Does anyone know what they are?
A. Basal cell carcinoma, squamous cell carcinoma and melanoma.

Q. Which cancer do you think is the most harmful?
A. Basal cell and squamous cell skin cancer are the most common types of skin cancer but melanoma is the deadliest form of skin cancer.

Q. Do you know what part of the sun gives us skin damage?
A. Ultraviolet (UV) Rays.

Q. What are Ultraviolet Rays?
A. There are 3 different classifications of UV Rays; UVA, UVB and UVC. UV rays can get through clouds, fog and haze. The rays can reflect off of water, sand, concrete and especially snow can reflect, and even increase, the sun's rays.

Ultraviolet A (UVA)

Penetrate deep into the skin dermis
Produce an immediate tan.
Cause skin aging and wrinkles.
UVA also plays a role in certain skin cancers
Are in indoor tanning equipment such as tanning beds and sun lamps.

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Ultraviolet B (UVB)

It can go through the outer layer of the skin (epidermis) and is responsible for a delayed tan, sunburns, most skin cancers and cataracts.
Produce a delayed tan.
Are more intense during summer, at higher altitudes and locations closer to the equator.

Ultraviolet C (UVC)

Never reach the earth's surface because the ozone layer blocks them.
Are not allowed to be produced by regulated indoor tanning equipment.

Q. How do you know when the UV rays are strong?

A. We cannot see or feel the UV rays. So it is important that we check the UV index every morning to see how strong the rays will be for that day.

Q. Raise your hand if you checked to see what the temperature is today.

A. Many hands will go up.

Q. Keep your hand up if you checked the UV index today.

A. Few hands will remain up.

It is as important to know what the UV index is because just like you need to know what to wear for the temperature; you need to know what to wear for the UV rays.

Explaining the UV Index

(**Teaching Aids:** UV Index Poster, and current UV index for the day.)

The UV Index is a scale from 0-11+ that tells us how strong the UV Index is and what precautions we should take to protect ourselves in the sun. If the UV Index reaches 3 or higher it's included in the weather forecast. In order to know what the UV Index is for the day, we should listen to the weather forecast on the radio, check the internet, or watch the weather channel. Once you know what the UV index is, you can look at this poster to remind yourself of how much protection you should take. In general, the UV index in Canada can be 3 or higher from 11 a.m. to 3 p.m. between April and September, even when it's cloudy.

Together with the kids, decide on the best spot for the poster to be displayed. Choose a spot where the kids and staff will be reminded of the UV index often. Hanging it on the door to the playground is one suggestion.

Q. If the UV index is 3 or higher, what precautions should you take to protect yourself?

A. See SunSense Guidelines.

SunSense Guidelines

The students will say one of the options listed below, discuss the information then ask for another way to protect themselves. If they forget to mention one, tell them at the end. After all the guidelines have been discussed move onto the bracelet section. If you choose not to make the bracelets, move onto the conclusion.

1. SEEK Shade or Create Your Own

(**Teaching Aid:** An umbrella)

Q. Can you get a sunburn when it's cloudy?

A. Yes, the UV rays can get through light clouds, haze, fog and smog.

Q. Where can you find shade?

A. Tree, play structure, tent, awning, umbrella, etc.

Q. What can you bring with you to create shade?

A. Umbrella, tent, etc

Q. What time of day are the UV rays the strongest?

A. Between 11am and 3pm, between April and September.

An easy way to remember this and to share with your younger siblings is the following rhyme.

"When your shadow is short, stay out of the sun.
When your shadow is tall, go out and have fun!"

2. SLIP on Protective Clothing

(**Teaching Aid:** Different types of clothing.)

Q. What is the best type of clothing to wear?

Clothing with long sleeves and long pants.
Can be loose fitting but with;
Fabric that is tightly woven.
Clothing with an Ultraviolet Protection Factor (UPF).

Q. What is better at protecting you from UV rays; wet or dry clothing?

A. Although it is a good idea to wear a shirt when you are swimming, when your clothing is dry it will protect you more than when your clothing is wet.

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3. SLAP on A Wide-Brimmed Hat

(**Teaching Aid:** Different types of hats, the child that says hat comes up and one other volunteer. One child wears a baseball cap and the other a bucket or sun hat.)

Q. Why is the bucket/sun hat better than the baseball cap?

A. The brim goes all the way around out head to protect your ears, back of your neck and also your eyes. These areas need extra protection.

Q. Can hats have an added UPF like our clothing can have?

A. Yes, you can also find hats with added UPF. Take a look the next time you are shopping.

4. SLOP on Sunscreen

(**Teaching Aid:** Sunscreen bottle with an SPF 30+)

Q. How long before going outdoors should you put your sunscreen on?

A. You should put sunscreen on at least 20 minutes before going outside.

Q. How often should you re-apply sunscreen?

A. Read the label and follow the instructions for reapplying sunscreen, especially after swimming, exercising or sweating, it is usually at least every two hours or after you swim or sweat.

Q. If you also need to wear insect repellant, which do you put on first?

A. Put your sunscreen on first. This allows it to absorb into your skin properly. Try to avoid products that have both sunscreen and insect repellent as they don't work well together in the same product. Be sure to read and follow the instructions for use on both containers to make sure that each product is applied properly.

Q. What is the minimum Sun Protection Factor (SPF) you should use?

A. SPF 30 or higher.

Q. Did you know that sunscreen expires? How can you tell?

A. Look for the expiration date on the bottle, tube, etc.
(Pass out your bottle of sunscreen to a student and ask them to find the expiry date.)

Q. What do you do if you have expired sunscreen?

A. Throw out the old bottle and buy a new one, because it will not protect you as well once it has passed its expiration date.

Q. Should you wear sunscreen in the winter?

A. Yes. Remember it is not the heat that gives us sunburn but the UV rays which are invisible. The UV rays reflect off the snow. Most of your body is already covered but don't forget to put sunscreen on your face.

5. SLIDE on Sunglasses

(**Teaching Aid:** Different types of sunglasses, the child that says sunglasses comes to the front with another volunteer, one wears sunglasses with light lenses and skinny side and the other wears sunglasses with dark lenses and thick sides.)

Q. What kinds of sunglasses are best to wear?

- *Contain both UVA & UVB protection*
- *Frames that have thick sides that are close-fitting or wraparound*
- *Lenses with labels reading "UV400" or "100% UV protection"*

Q. Why is having wrap-around sunglasses or thick sides better than thin sides?

A. It protects your eyes from all angles.

6. SMACK on Lip Balm with an SPF

(**Teaching Aid:** Lip chap with an SPF)

Your lips are skin and need protection too. You can buy a balm stick that has an SPF just like your sunscreen has. Be sure to reapply it just like you would your sunscreen.

7. STAY Away from Tanning Beds

Q. Raise your hand if you know someone who uses a tanning bed.

A. Most hands will go up.

Q. Raise your hand if you personally have used a tanning bed.

A. Some hands will go up.

Q. Is it safe to get a tan from a tanning bed?

A. There's no safe way to get a tan. The World Health Organization upgraded the classification of UV-emitting devices, such as tanning beds, from a probable carcinogen to a known carcinogen. In other words, tanning beds are no longer something we think probably causes cancer – we know they cause cancer. UV rays cause skin damage, including sunburns, premature skin aging, wrinkles, skin cancer and cataracts. Tanned skin is damaged skin. When the tan fades, the damage is still there. Long-term exposure to UV rays and sunburns either from the sun's rays, tanning beds or sun lamps, can put you at greater risk for non-melanoma or melanoma skin cancers. Some tanning beds can expose you up to 5 times more radiation than the sun. An expert review in the British Medical Journal showed that people who first started using indoor tanning equipment before the age of 35 have a 59% increased risk of melanoma. For more information about tanning beds, please visit: www.tanfree.ca

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Q. Raise your hand if you will use a tanning bed now.

A. Hopefully no hands will go up.

Q. Some people think they have to tan to get vitamin D. Why do we need vitamin D?

A. Tanning beds are not a safe way to get your vitamin D. Vitamin D is needed for healthy bones and muscles, especially in students and the elderly. There is growing evidence that vitamin D may reduce the risk of some types of cancer, particularly colorectal and breast cancers.

Q. How can you get your vitamin D?

A. You can get vitamin D from a few minutes of exposure to sunlight, in your diet (especially if you eat foods fortified with vitamin D), or by taking vitamin supplements.

Q. What do you think the average recommended vitamin D dosage for adults is?

A. 1000 international units (IU) a day. Be sure to talk to your doctor before you start taking supplements.

8. SEE Your Skin Regularly

(**Teaching Aid:** Skin Cancer Self-Examination Door Hanger and ABCDE Bookmark)

Q. How often should you examine your skin?

A. At least once a month.

Q. What are the main changes you should look for?

A. Changes generally fall under the ABCDE classifications:

Asymmetry - one half of the mole is unlike the other half.

Border - irregular or questionable border.

Color - darkening or loss of colour, black or black-blue are the most common colours but it could also be shades of red, blue and white.

Diameter - larger than 6mm as a rule. (diameter of a pencil eraser)

Evolution - a new or old mole changes in any way.

Other indicators are if it is hard, lumpy, oozing, bleeding or itchy

Q. What do you do if you find something?

A. Tell your guardian and they can make an appointment with your doctor. Your doctor will decide if you need to see a dermatologist.

UV Bead Bracelet

As we said earlier it is hard to know when the UV rays are strong. We have these bracelets (hold your ready-made bracelet up for the group to see) to help remind us when the UV rays are strong and we need to protect ourselves.

After I explain about the bracelets and how to make them you'll each have a chance to create your own bracelets which you can wear throughout the summer to remind you to protect yourself from the sun.

The UV beads:

Are special beads that turn from white to purple in UV light only.
Other light or inside light from a light bulb doesn't change them.
Heat doesn't change them.
Only when they're in the presence of UV light will they turn purple.
When there isn't any UV light around (inside) they are white.

The card on the back has many different colours but your beads will only turn purple.
When the beads are light purple then you need to start taking protection and then the beads are dark purple it means that the sun is very strong, and you should be taking lots of protection. Remember that these bracelets are for when you are already outside, to help remind you to continue protecting yourself from the UV rays. You still need to check the UV index every day before you go outside, so that you are protected from the UV rays before you leave the house.

Note: The beads react to UV light because they have been treated with a special chemical that is sensitive to this kind of light.

Because the string is elastic it is recommended to tie the bracelet like you would a balloon. Hold both ends of the string, wrap around your finger and pull through.

Activities

Testing your UV Bead Bracelets

Once the students have finished making their bracelets the group can begin to experiment. There are experiments for both inside and outside. Each experiment can be done while the students wear their bracelets.

If you are unable to try the experiments with the students for some reason (e.g. it's raining) you can still explain to them how they work. On these days, check the list of indoor activities for the bracelets and other fun games. Have them guess what will happen and encourage them to test their bracelets when the weather is better and they are outside at home, in the park, etc.

Outdoor Activities

Test #1 – *Does clothing really protect us from UV light?*

Materials Required
This test can be done with several different types of materials in order to see which clothing offers the most or the least protection. To make this test more interesting the leader can bring a variety of clothing items from home. Have the kids guess which clothing will offer the best and the worst protection.

Different Types of Clothing:
Thick vs. Thin
Light vs. Dark
Tightly woven vs. Loosely woven
Straw hats vs. Canvas hats
Bathing suit material
Wet white cotton t-shirt vs. a dry white cotton t-shirt

Are some types of materials better at blocking out UV light than others? While outdoors, have the kids hide the bracelets under different articles of clothing for 20 seconds at a time. After the 20 seconds, bring the bracelets out from hiding. Has the UV light been able to get through?

Test #2 – *Shade*

Have the kids gather in a shady spot and watch what happens to the colour of the beads. (The beads will turn pale in colour.) What does this mean? (The UV light isn't as strong in the shade.)

Test #3 – *Can UV light travel through water?*

Materials Required
4L ice-cream pails (Number of pails depends on amount of students.)
Water
Towel

Fill the pails with water. While wearing their bracelets, have the kids gather around the pails and place their bracelets underwater. What happens to the colour? What does this tell them about UV light?
(Note: Be sure that the kids don't crowd so much that the light can't reach into the pail.)

UV light travels through water. Remember you are not protected from the sun when you are swimming in the pool or in the lake, and UV rays will reflect off of the water.

Indoor Activities

If you are outdoors with the kids you will want to head indoors where the kids can see the beads turn white. Ask them why this happens (no UV rays present).

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Test #4 – *Flashlight*

Materials Required
Flashlight
(Optional: using indoor light will produce the same results.)

While inside ask the students if shining a flashlight on the beads will get them to change colour. Why doesn't this work? (The beads will only react to UV light. Indoor lights or light from a flashlight does not contain UV light.)

Test #5 – *Can UV light go through windows?*

While indoors, have the students hold their bracelets up to the light of a window. What happens to the colour of the beads? (The UV beads are pale in colour demonstrating that some degree of UV light can travel through windows.) When traveling on a long distance car trip, should you remember to protect yourself? What about truck drivers? Does anyone have tinted windows in their car? What about tinted sunglasses?

Additional Activities

Pay it forward

After the students have received the SunSense lesson, give them the lesson plans for the younger grades and have them teach the younger students. *(Download lesson plans from www.cancer.ca/mbsunsense)*

Sun Safe Video

Students create a video on the topic of how to be safe in the sun. Topics can include How to be Safe in the Sun or The Dangers of Tanning Beds. They then share the videos with the rest of the school.

Weather Watch

Record the UV Index readings for a week by watching the TV weather report, checking the Internet or newspaper. Record the date, weather, and UV Index.
What did you find out?

Design a Flyer/Poster about the Danger of UV Rays

Use what you have learned about UV rays to develop a UV ray information poster to inform young people about the dangers of UV rays. Your target audience will be students your age and your design should encourage them to actually pick it up and read it! How would you convince someone that exposure to something that you can't see or feel can be harmful to your skin and possibly lead to skin cancer?

Design Your Own Sunscreen

Design your bottle and then create an advertisement to share with the class.
(Download from http://www.sunsmart.com.au/downloads/communities/secondary-school/resources/design-your-own-sunscreen.pdf)

Going On A Holiday

From the World Health Organization (WHO)
Have each student choose their preferred holiday location. Ask them to find the UV Index readings for these countries on the Internet. In what ways might students need to change their behaviour compared to their home environment? What other factors might they need to consider in choosing sun protection methods, other than the UV Index, e.g. temperature, time of day, and surrounding surfaces such as water or snow?

Ask students to develop a travel brochure for their chosen city or country, and include sun protection tips. Students should ensure that they consider factors like time of year in developing their advice.

Make an Online Sun Safety Survey

Using Survey Monkey (www.surveymonkey.net) create your own on-line survey to find out how many young people in your class or school are sun safe. Ask the following questions or create/add your own.

When you are outside do you:

1. Wear protective clothing?
2. Wear a wide brimmed hat?
3. Apply sunscreen regularly
4. Apply lip balm with an SPF?
5. Seek or create shade?
6. Reduce sun exposure between 11am-4pm?
7. Wear sunglasses?
8. Never seek a tan?
9. NOT follow any sun safety guidelines?

Graph your results.
From your results, what conclusions can you draw about young people and sun safety behaviours?

Make a Poster or Banner!

Create a large poster or banner with sun safety slogans to hang in your classroom. You can also ask every grade to make one part of the banner, then piece together and hang somewhere in the school that everyone can see.

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Sun Safety Crossword (Download from www.cancer.ca/mbsunsense)

SunSense Word Scramble (Download from www.cancer.ca/mbsunsense)

A Few Sun Riddles (Download from www.cancer.ca/mbsunsense)

SunSense Fortune Teller (Download from http://www.cancer.ca/~/media/cancer.ca/CW/publications/Fortune%20teller/Fortune-Teller-2003-EN.pdf)

Conclusion

This is an important part of the presentation since we want to encourage the students to wear the beads beyond this one day. Please be sure to emphasize this in your wrap up.

If you wear your UV bead bracelet every day, it will serve as a reminder for you so you don't forget how to protect yourself. You also have a pamphlet from the Canadian Cancer Society that has all the tips we've talked about today. (Open the pamphlet and show them where to find the SunSense guidelines and UV index). Share the information you learned today with your friends and family, as everyone need to protect themselves from UV rays. Especially talk with those who participate in outdoor and indoor tanning. Remember, UV light is not related to temperature so you can still get sunburn on a cool, cloudy day and in winter too. Don't forget to: SEEK shade; SLIP on protective clothing; SLAP on a hat; SLOP on the sunscreen; SLIDE on sunglasses; SMACK on SFP lip balm; STAY away from tanning beds and SEE your skin. Remember, sun damage adds up over a lifetime. You need to protect yourself now when you are young in order to be healthy when you are older.

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