

Sun Safe Fashion Revolution:

How sun safe are my clothes?



Clothing provides the most effective protection from the sun because it physically blocks the sun from the skin. Students examine several different shirts to see how well they shield skin from the sun's harmful UV rays. They'll gain the skills to assess the sun safety of their clothing now and in the future.

How much time will it take?

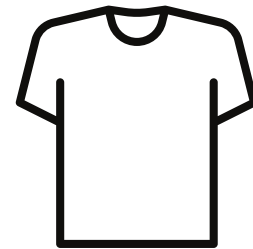
One 45-minute class.

Curriculum Links

Sun Safe Fashion Revolution connects with subjects in Alberta's Middle Years Programs of Study including Health and Life Skills (Wellness Choices: Safety and Responsibility), Math (Number Sense, Fractions and Decimals), Science (Grade 4 Topic D Light and Shadows; Grade 6 Topic C: Sky Science; and especially Grade 5 Topic D: Weather Watch where students will "Test fabrics and clothing designs to choose those with characteristics that most effectively meet the challenges of particular weather conditions."

Here's what you will need:

- various shirts; include different fabrics, colours, weaves, short & long sleeves; if possible, students can each bring one
- The Dirt on Shirts Sun Safety Checklist



Let's get started (15 minutes)

1. **Consider how sunlight works.** What is UV light? How does it travel? How does it impact skin? UV light is one of the types of radiation that comes from the sun. It is in the middle of the spectrum which means it has more energy than visible light but not as much energy as x-rays. There are three types of UV rays. UVA rays have the least energy; they are primarily responsible for the aging of skin--like wrinkles! UVB rays move a little faster than UVA; they are responsible for sunburns and are closely linked to skin cancers. UVC rays have the most energy of the UV rays which means they are absorbed by the ozone layer. Because they do not reach the ground they are not a risk factor for humans.
2. **Inventory the ways students can protect their skin from the UV light.** Make a list--it can include things like shade, shelters, hats, umbrellas, hats, and, most importantly for this activity, clothing.
3. **Together, take a quick look at one shirt.** What are the students' first impressions? Good protection or not?
4. **Consider the shape of the shirt.** How does its shape and construction provide sun protection?

5. **Consider the fabric.** Can students guess how effective the fabric will be for sun protection?
6. **Define Ultraviolet Protection Factor.** Students likely know that the strength of sunblock is measured in SPF or Sun Protection Factor. The protection that clothing provides is measured with UPF, or Ultraviolet Protection Factor. Canada does not have its own UPF measurement system but in the US system, a UPF factor 15-24 is good; 25-39 is very good; and 40-50 is excellent. The number indicates the percentage of UV rays the fabric blocks, for instance UPF 50 means fabric blocks 1/50th or 2% of the UV radiation. Some clothing is assigned a UPF which is included on the label.

Time to get to work (15 minutes)

Students choose a shirt and answer questions about it. Working alone, in pairs, or in small groups, students work their way through the checklist using their chosen shirt.

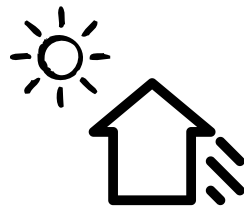
Let's discuss observations. (15 minutes)

1. **It's time to compare notes!** Once students have completed the checklist, come back together as a class. Have students compare the shirts and the UPF rankings they gave them.
2. **Rank the shirts from lowest to highest.** Group them together in thirds (good, very good, excellent).
3. **Identify suitable activities for each group of shirts.**
4. **Examine ways lowest-ranking shirts could be made more sun-safe.**
5. **Ask the students to reflect on their own wardrobes** and to consider the choices they will make in the future in order to be sun-safe.

Ideas for going a further

Go through a similar evaluation process with hats. Try a number of hats of different shapes, styles, and materials. Rank them. Which offers the best protection? Which offers the worst?

Go through a similar evaluation process with sunglasses. Check HowStuffWorks.com or TeachEngineering.com or another online resource for more details about how sunglasses are rated.



Let us know how this activity worked for you and your students.
Send us an email at alberta@canadianskincancerfoundation.com

Sun Safe Fashion Revolution Checklist

What kind of shirt is it? (For example, dress shirt, t-shirt, formal shirt, tank top).	
How much area does it cover? Consider sleeves (long or short), neck (collar or no collar), body (cropped or long).	
What colour is it? Dark and/or bright colours absorb more UV rays than pale and/or light colours.	
What kind of fabric is it? Synthetic fabrics (like polyester, nylon, spandex, or acrylic) shield the skin more effectively than natural fabrics like cotton, wool, silk, or linen.	
How dense and/or thick is the fabric? Hold it to the light--can you see through it? Denser/thicker fabrics (like denim or canvas) offer more protection; more sheer or thin or loosely woven fabrics allow more UV rays to touch the skin.	
How reflective is the fabric? Shiny fabrics (like nylon, satin, silk) can protect the skin because they reflect the UV rays.	
Does the shirt fit loosely or tightly? When tight clothes stretch, they offer less protection.	
How worn is the shirt? Do you see any areas that have worn through or places where it has been torn or stretched? As an article of clothing ages, it becomes less protective.	
Give this shirt a ranking from 15 (low)-50 (high). Does this shirt provide good, very good, or excellent sun safety protection?	

Once you have finished your ranking, you'll gather with the rest of your classmates to compare notes!