

Scoping out shade

Suggested level

Years 7 and 8

developing their maps, students need to include the BOLTSS (Border, Orientation, Legend, Title, Scale, Source) map components.

Prepare yourself (teacher)

Be aware of the different shaded areas in your college. Think about areas where shade could be improved or increased. This activity could be modified to teach the components of mapping for Humanities subjects. When

Class resources

- A3 sheet of paper
- pencil
- ruler for map drawing

SURFACE	HOW MUCH UV IT REFLECTS (%)
Snow, old – new	50 – 88%
Sea surf, white foam	25 – 30%
House paint – white	22%
Beach sand, dry, light	15 – 18.0%
Beach sand, wet	7.1%
Concrete footpath	8.2 – 12.0%
Open ocean	8.0%
Boat deck, wood – fibreglass	6.6 – 9.1%
Asphalt/bitumen, new (black)/old (grey)	4.1 – 8.9%
Soil, clay	4.0 – 6.0%
Open water	3.3%
Lawn grass, summer – winter	2.0 – 5.0%
Grasslands	0.8 – 1.6%

This table shows the percentage of UV that is reflected by different surfaces.

The higher number means more UV is reflected by that surface.

Outdoor areas should try to use materials that reflect less UV.

Source: Sliney DH. *Physical factors in cataractogenesis: Ambient ultraviolet radiation and temperature*, 1986.

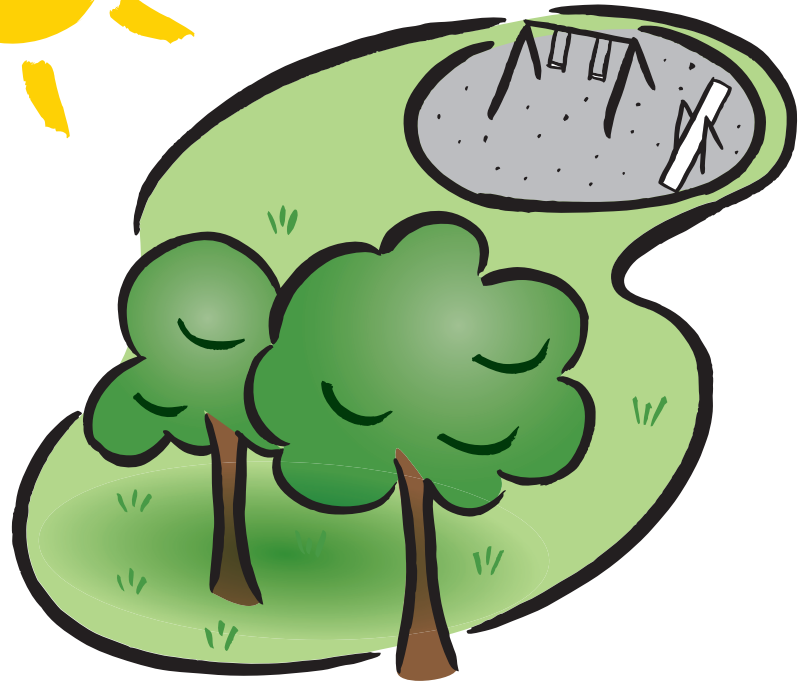
Think about it!

Think about your school day from September to the end of April. When are you exposed to UV?

Are these periods of high UV?

How does your school protect you from UV overexposure?

How do you protect yourself from UV overexposure?



The activity

To be completed some time between September and the end of April when UV levels are high.

1. Draw a map of two areas of your schoolyard.
 - a. Include one area that has natural or built shade.
 - b. Include one area that offers no natural or built shade.
 - c. Mark the type of surfaces for each of the areas e.g. grass, concrete, asphalt.
2. Sit close to these two areas during a recess and/or lunch and create a table to record usage of these two areas during break times. Consider how many people used the area, how long they used it for, what type of activity they did.
3. Develop a summary of usage that could be presented to your Principal. In your summary explain who uses each area, how long it is used for and what activities are done there.
4. Prepare an action plan including five key points to improve each area. Ensure your recommendations consider sufficient shade to provide sun protection from September to April. Consider surface areas and UV reflection when developing your key points.
5. How can shaded areas be adapted to also allow for some UV exposure from May to August to help with vitamin D levels?