



# Investigating UV levels

## Levels 3-6

### Learning intention

To investigate UV levels at different locations and times and identify when sun protection is needed.

### Victorian F-10 Curriculum Links Content descriptions

#### Science

**Level 3 - 4:** Represent and communicate observations, ideas and findings to show patterns and relationships using formal and informal scientific language.

**Level 5 - 6:** Communicate ideas and processes using evidence to develop explanations of events and phenomena and to identify simple cause-and-effect relationships.

### Introduction

What is UV and how do UV levels vary?

Review information from

<https://www.cancer.org.au/preventing-cancer/sun-protection/uv-alert/>.

Remind students that sun protection is needed for all outdoor activities whenever UV levels are three or higher. Always check the daily sun protection times which show when UV levels are forecast to be three or higher. During the sun protection times use the 5 SunSmart steps so you can be well-protected when you need to be.

Display examples of the [SunSmart app](#) and [widget](#) which shows UV levels and the times to use [sun protection](#).

### Activity

Introduce students to [ARPANSA](#) and [BoM](#) UV data.

Daily UV data: Visit

<https://www.arpansa.gov.au/our-services/monitoring/ultraviolet-radiation-monitoring/ultraviolet-radiation-index> and click on Melbourne. Look at the predicted UV vs the actual UV. Why can they be different?

Average UV for each month: Visit <https://www.arpansa.gov.au/our-services/monitoring/ultraviolet-radiation-monitoring/uv-index-model> and click on Melbourne

Average UV across Australia via month and season: Visit [http://www.bom.gov.au/jsp/ncc/climate\\_average/uv-index/index.jsp?period=an#maps](http://www.bom.gov.au/jsp/ncc/climate_average/uv-index/index.jsp?period=an#maps) and click on annual, month or season

To get previous data on UV for specific times across the year, you can request information from <https://www.arpansa.gov.au/our-services/monitoring/ultraviolet-radiation-monitoring/special-requests-ultraviolet-data>.

Using these data sources, ask students to graph the UV over the last year, calculating the [mean](#), [median](#) and [mode](#). Compare UV levels across different locations and times of year.

### Reflection

After graphing the data and analysing the graphs, consider the following:

1. What patterns do you see in UV levels in Melbourne / across Australia?
2. When are UV levels highest / lowest? Why?
3. Where are UV levels highest/lowest? Why?
4. Are there locations / times when the average UV level is below 3?
5. What happens when people are exposed to high UV levels?
6. When do people need to be protected from UV?
7. What advice would you give people about UV protection and UV levels?

