**Background science**

The Sun is essential for life on Earth, but light from the Sun can also be very harmful. Sunlight includes ultraviolet light, which carries more energy than visible light. When ultraviolet light is absorbed by skin cells on the human body or the cells in our eyes, it can cause burns. Overexposure to this dangerous light from the Sun can cause long-lasting damage, and evidence shows a strong link between exposure to ultraviolet light and skin cancer. We protect ourselves by covering up with clothes, applying sunscreen and keeping out of the strong midday Sun.

We are lucky that the Earth’s atmosphere provides a shield, protecting us from some of the most harmful ultraviolet light. For the first astronauts to visit Mars, this will not be the case. Mars has no ozone layer, so astronauts will be exposed to higher levels of ultraviolet light. Even though Mars is much further away from the Sun than the Earth, astronauts will need to build a special habitat to protect them from long-term exposure to radiation from the Sun and wear spacesuits and visors to protect them when they are moving around on the planet.