



# **HANDS-ON EXPERIMENTS**

STEVENSON SCREEN



Weather stations are susceptible to variations because of direct weather - like cool breezes or intense direct sunlight. To minimise the effects of these on readings, meteorologists shelter their instruments inside a box called a Stevenson screen.

Your Stevenson screen can be used for some experiments with thermometers - however, you can house other instruments in there too.

## Procedure

*You'll need: Two thermometers, a sturdy box (preferably plastic or wood), white paint.*

- Paint the outside of the box white to reflect sunlight and wait while it dries.
- Attach one of the thermometers inside the box - sticking it to the inside of the back is usually easiest. Attach the second thermometer to the outside of the box.
- Find a sheltered, shady position outside for your thermometers and stand the box so that air can enter it but the thermometer inside is shielded from direct weather conditions.
- Take thermometer readings at set times each day.

## Investigation

- Stevenson screens should protect your instruments from being affected by wind chill, direct heating from sunlight and other variations. Comparing the readings on the thermometer inside with the thermometer outside should allow you to measure these effects. Do your readings show a noticeable difference? Why?
- How important is painting the box white? Try making a second screen but this time paint it black - compare the results with your first box.
- All commercial Stevenson screens are made to be used at a set height above the floor. Do some research to find out how a Stevenson screen is usually placed. Why do you think these standard dimensions are used?
- If you have access to a datalogger with an electronic thermostat - try taking automatic readings over several days and look at the graph of the results. Can you see any pattern in the temperature variations?

# VIDEOS FOR THIS RESOURCE AT:

INTRODUCTION:



Clickable Link:

<https://youtu.be/4DteKnwbYZ8>

CONCLUSION:



Clickable Link:

<https://youtu.be/2bXle0fj3Zw>

