

Climate inquiry:

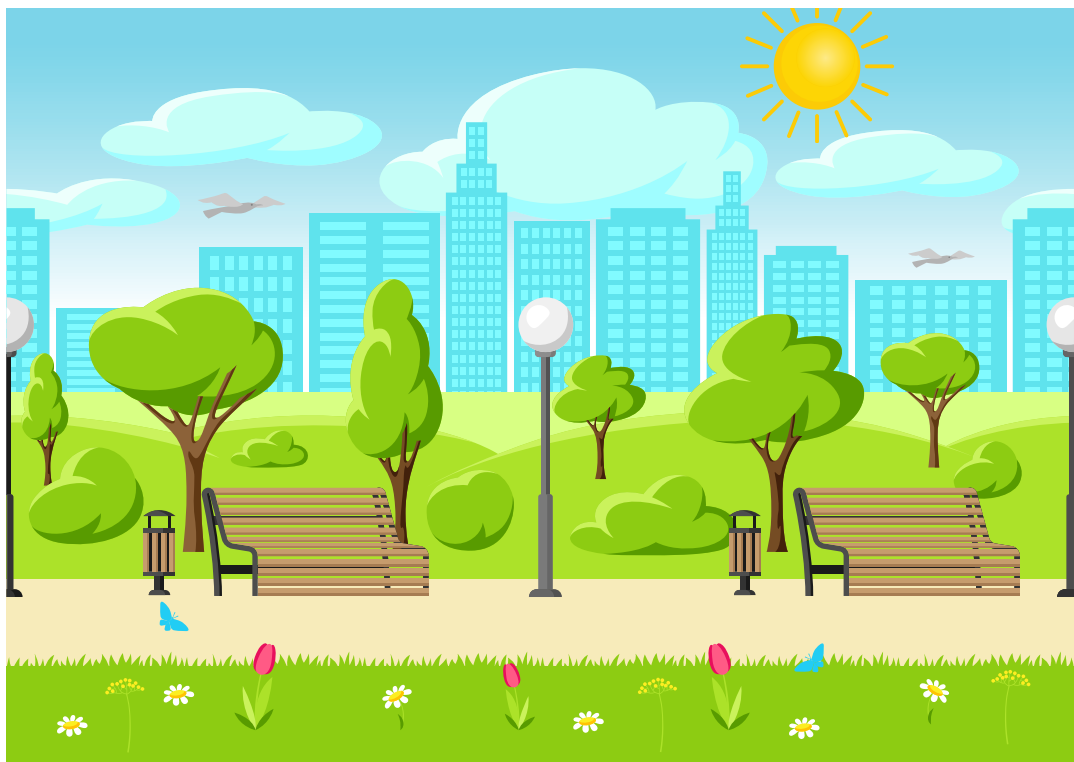


The temperature of Earth's surfaces

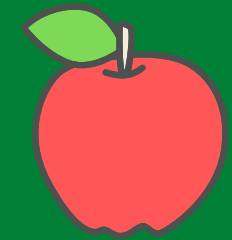
You may have noticed running around barefoot in the summer that you can comfortably walk across the grass, but roads and sand can be way too hot!

As the sun's energy warms the earth, it doesn't heat evenly. Different surfaces absorb different amounts of the sun's energy.

The more of the sun's energy surface absorbs, the hotter it gets.



This simple activity will show how your neighbourhood heats differently.



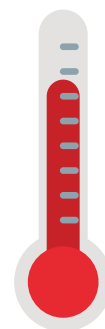


The temperature of the Earth's surfaces

In this activity, you will find out how the heat of common surfaces differ.

Equipment:

- A thermometer
- A pencil
- A black piece of card
- This booklet
- An adult to supervise as you will be outside



Method:

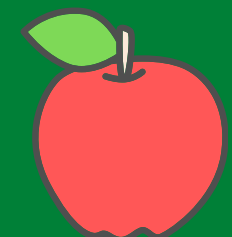
You will be measuring the temperature of five different surfaces

1. Grass
2. Bare ground/dirt
3. Concrete, such as a footpath
4. Water, such as a pond or pool
5. A black surface- the piece of black card that has been sitting on top of a concrete path or block for at least ten minutes

Measure each surface one at a time, recording your data on the table in this booklet.

Let the thermometer sit on the surface for four minutes before taking a reading.

In between measuring each surface, let the thermometer go back to air temperature by keeping it off a surface for four minutes before going to the next.



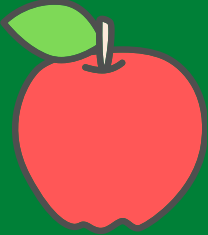


Before you start:



Which surface do you predict will be the *hottest*, and why?

Which surface do you predict will be the *coolest*, and why?

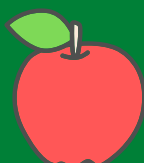


Results:

Surface	Temperature
Grass	
Bare Ground	
Concrete	
Black surface	
Water	

Where your predictions correct, yes or no?

Which surface was the hottest, and which was the coolest?





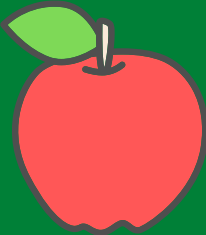
Questions:



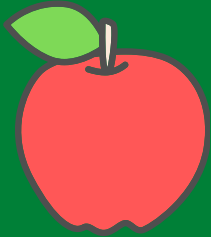
Why do you think this surface was hotter than the others?

If the surfaces warm up to different temperatures, how do you think this affects the air temperature above them?

How could you test that?



Compare neighbourhood a and b



a.



b.



Questions:

Which neighbourhood would be hotter, and why?



What could the people in neighbourhood b do to cool the suburb down a little?

