

How can local features affect temperature and wind?

On a fine summer's day are some of the classrooms in your school hotter than others? When the sun shines or a cold wind blows, is one side of your classroom warmer or colder than the other? On a hot sunny day can you notice a difference in

temperature between a dark, tarmac playground and a grassy area like the school field? Are there some sheltered places around your school where you can get out of the wind?

Look at cartoon **A** which shows how different the conditions can be on two sides of a hedge.

Each particular place or site tends to develop its own special climate conditions. When the climate in a small area is different to the general surroundings it is called a **microclimate**. Some of the causes of microclimates are given below.



B

Shelter



Trees, hedges, walls, buildings and even hills can provide shelter from the wind. Wind speed may be reduced and its direction changed. Places sheltered from cold winds will be warmer.

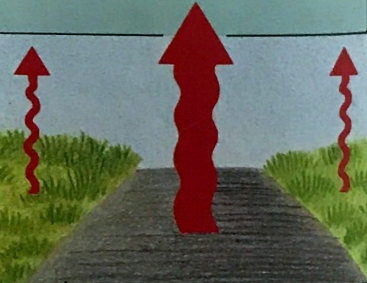
Physical features

Trees provide shade and shelter and are usually cooler than surrounding areas. Water areas such as lakes and seas have a cooling effect and may also produce light winds. Hill tops are usually cool and windy.



Surface

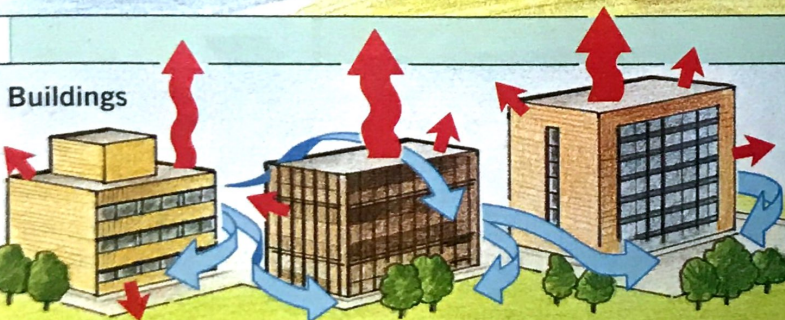
The colour of the ground surface affects warming. Dark surfaces such as tarmac and soil will become warmer than light surfaces such as grass.



Buildings

Buildings give off heat that has been stored from the sun during the day or which leaks from their heating systems. Temperatures near buildings may be 2°C or 3°C higher.

Buildings break up the wind and can reduce wind speeds by up to a third. Sometimes the wind can increase speed as it rushes round buildings.



Aspect

The direction in which a place is facing is called its aspect. Places facing the sun will be warmer than those in shadow.

In Britain the sun rises in the east and moves through the south before it sets in the west. South facing places get most of the sun and are usually the warmest.

