

# Microclimate Knowledge Organiser

## Key Terms

**Weather** – the day-to-day conditions in the atmosphere. It is warm and sunny

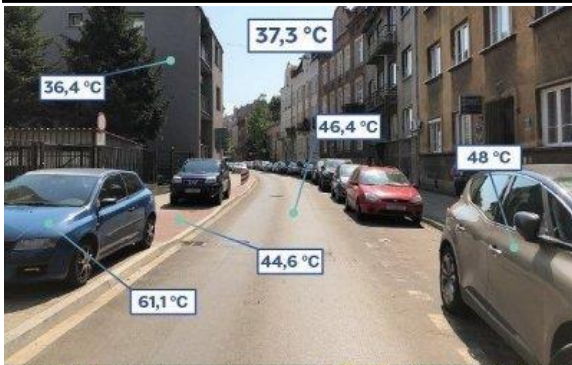
**Climate** – weather conditions over a long period of time. Spring in the UK is wet and mild.

**Fieldwork** – this is practical research outside of the classroom.

## Rationale

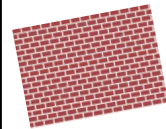
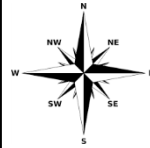
In this project you will investigate the microclimate of our school. You will learn about the role of the environment in affecting the microclimate along with developing your geographical investigation skills. This will involve identifying an area of study, collecting, presenting and analysing data along with formulating conclusions based on your investigation.

A microclimate is the distinctive climate of a small area, such as a garden, park, valley or part of a city. The weather in a microclimate can differ from the climate of a surrounding area. The variables may be temperature, rainfall or wind.



The two photos above were taken in the same city on the same day but the temperature in either place varies greatly. This is because in the second photo the trees are providing shade for the street so the ground is not being heated as much by the sun.

## Factors that can affect microclimates



1. **Aspect** - The direction a place is facing. Places facing the south will be warmer as they receive more of the sun's energy. Those facing the north will be cooler.
2. **Shelter** - Trees, hedges, walls and buildings all provide shelter from the wind. This can reduce wind speed or change direction of the wind.
3. **Physical Features** - Trees create shade. Bodies of water such as lakes and seas are cooler and sometimes create light winds. High places are cooler than low.
4. **Surfaces** - The colour of the ground affects the warming. Dark surfaces are warmer than light as they absorb the sun's heat better.
5. **Buildings** - Buildings give off heat that is stored during the day. Temperatures can be 2-3 degrees hotter around buildings. Buildings can decrease or increase wind speed.

The process of investigation

**Hypothesis** – this is the question we are aiming to answer by collecting, presenting and analysing data.

**Risk Assessment** – we always need to first assess what risks we face during fieldwork. If we are staying on school grounds we do not need to worry about traffic but the weather and also how we dress may have a factor. For example if it is raining we should wear a coat to stay dry.

**Methodology** – This is how we will carry out our method. We design this before leaving the classroom. We need to think carefully about how many sites we will visit around school. What equipment we will need to measure differences in temperature, shade, wind speed and how we will record our data.

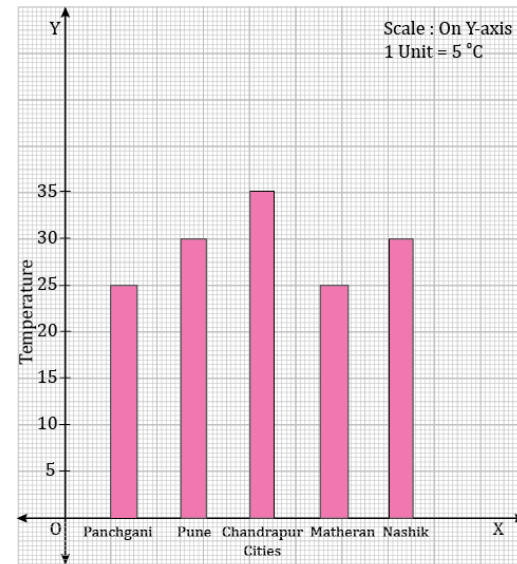
**Data Presentation** – This is how we present our data. This is a graph. Graphs make it easy to look for patterns in our data.

**Data Analysis** – We use our data to describe our results. We will look for specific patterns in places. If an area was in the shade did it have a lower temperature? Was the yard warmer than the field? Then we will explain why we think this was the case using the information on the previous page.

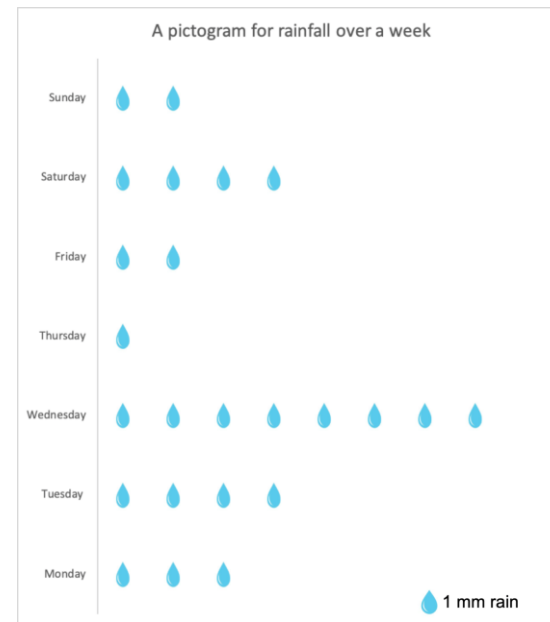
**Conclusions** – our conclusion is where we answer the hypothesis.

**Evaluation** – this is where we evaluate the study. Were there any factors that could mean our study was not accurate? How we collected the data for example?

## Ways we can present our data



This is a bar chart. We can use bar charts to show the data from each site on one graph. We can only show Temperature or wind speed on a bar chart though.



This is a pictogram. It is similar to a bar chart but each symbol represents 1mm of rainfall. You count the symbols to show how much rainfall there was at each site. Like a bar chart this is a good way to compare data over each site. It must have a key to be accurate.