



# Urban Heat: A New York City Exploration

## Student Sheet

### The question:

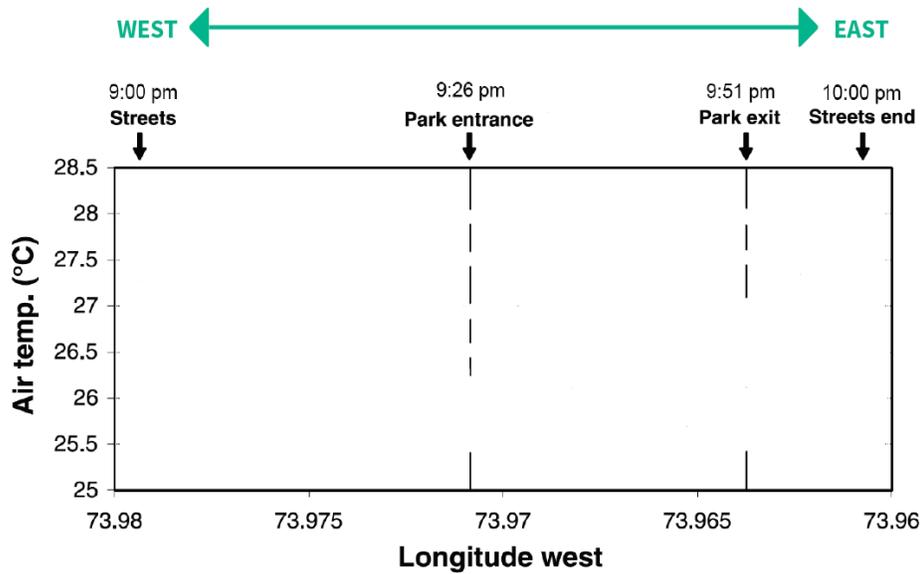
Is temperature different in Central Park than it is in the surrounding city streets?

### The investigation:

Two scientists took temperature measurements while walking from streets west of the park, across the park, and on the streets east of the park. They started taking measurements at 9:00 pm, a warm summer night in July 2006, and walked east for an hour across Manhattan.

### What do you think happened?

On the graph below, illustrate your hypothesis by drawing how you think temperature measurements changed while the scientists walked across city streets through the park, and back onto streets.



**Why?** Explain why you think temperature will change across the city like this.

### Does data support your hypothesis?

Look at the actual data (provided by your teacher). Explain whether the data support your hypothesis.

Data and method from: Gaffin, S.R., et al, 2008: Variations in New York City's urban heat island strength over time and space. Theor. Appl. Climatol., 94, 1-11.



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Data collected by Stuart Gaffin and his team:

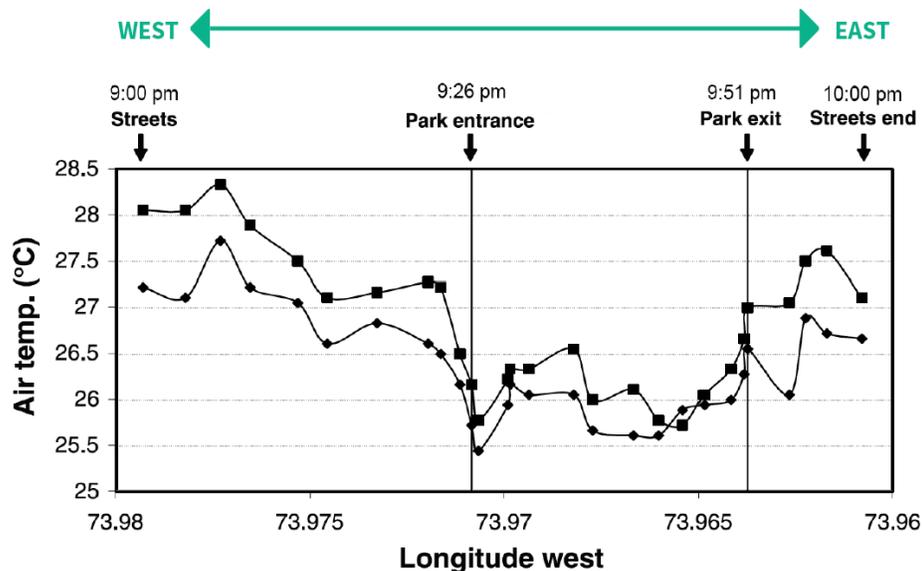


Fig. 7. Air temperature readings taken during a nocturnal traverse through Central Park in July 2006. The readings began in the west urban street areas and entered and exited the park as indicated. Nocturnal cycle cooling complicates interpretation of the data during the entrance to the park and the extent to which the park's cool island contributes is unknown. However, the warming during the exit from the park, in opposition to temporal nocturnal cooling, is a clear indication of the park's cool island effect.