## Measurement of Surface Temperatures in Kinmen High School Campus

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The focus of this observation is primarily on exploring the influence of various weather conditions such as weather patterns，humidity，cloud cover，and other factors on the surface temperatures of different materials．The observations are conducted weekly，primarily at the ecological pond and the sportfield．

1．Weather conditions，temperature，humidity，and cloud cover were measured in two designated areas of the school（beside the ecological pond and on the sportfield）．

2．Temperature readings were taken on different types of flooring materials（grass，concrete，and red PU track，we abbreviate it as PUR．） When sunlight was optimal，temperatures in shaded areas were also measured，and the temperature differentials were calculated．

3．Data was organized using spreadsheet tools and further analyzed．

We found that clouds and sunlight have an impact on temperature variations. Therefore, we compiled a table showing whether there was sunlight and the temperature difference between the highest and lowest recorded temperatures for each observation, with the same material being used.

|  | Max-Min | Cement floor Difference | Grassland Difference | PUR <br> Difference | Sun exposure situation |
| :---: | :---: | :---: | :---: | :---: | :---: |
| NOV 01 | $24.4{ }^{\circ} \mathrm{C}$ | NONE | NONE | $20.4{ }^{\circ} \mathrm{C}$ | Obvious |
| 1NOV 08 | $11.7{ }^{\circ} \mathrm{C}$ | $4.1{ }^{\circ} \mathrm{C}$ | $3.2{ }^{\circ} \mathrm{C}$ | NONE | Obvious |
| NOV 15 | $8.8{ }^{\circ} \mathrm{C}$ | NONE | NONE | NONE | Not too obvious |
| NOV 22 | $23.5{ }^{\circ} \mathrm{C}$ | NONE | $20.9{ }^{\circ} \mathrm{C}$ | $16.8{ }^{\circ} \mathrm{C}$ | Obvious |
| NOV 29 | $20.2{ }^{\circ} \mathrm{C}$ | $6.0{ }^{\circ} \mathrm{C}$ | $20.2{ }^{\circ} \mathrm{C}$ | $8.8{ }^{\circ} \mathrm{C}$ | Obvious |
| DEC 06 | $6.7{ }^{\circ} \mathrm{C}$ | NONE | NONE | NONE | Not obvious |
| DEC 13 | $10.1{ }^{\circ} \mathrm{C}$ | NONE | NONE | NONE | Not obvious |
| DEC 20 | $5.0{ }^{\circ} \mathrm{C}$ | NONE | NONE | NONE | Not obvious |
| DEC 27 | $21.5{ }^{\circ} \mathrm{C}$ | $9.9{ }^{\circ} \mathrm{C}$ | $20.0{ }^{\circ} \mathrm{C}$ | $7.7{ }^{\circ} \mathrm{C}$ | obvious |
| JAN 09 | $16.4{ }^{\circ} \mathrm{C}$ | $7.9{ }^{\circ} \mathrm{C}$ | $16.4{ }^{\circ} \mathrm{C}$ | $11.6{ }^{\circ} \mathrm{C}$ | Obvious |
| FEB 07 | $1.7{ }^{\circ} \mathrm{C}$ | NONE | NONE | NONE | Not obvious <br> (light rain) |
| FEB 14 | $21.5{ }^{\circ} \mathrm{C}$ | NONE | $20.6{ }^{\circ} \mathrm{C}$ | NONE | Obvious |
| FEB 21 | $34.7{ }^{\circ} \mathrm{C}$ | $12.4{ }^{\circ} \mathrm{C}$ | $32.2{ }^{\circ} \mathrm{C}$ | $19.0{ }^{\circ} \mathrm{C}$ | Obvious |

