



# Urban Heat Island Design Challenge

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WestEd/UC Berkeley partnership





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## Surface Temperature Investigation



Surface Temperature Data Sheet

Study Site: \_\_\_\_\_

Observer Names: \_\_\_\_\_

Date and time of day: \_\_\_\_\_

*Hold the infrared thermometer (IRT) with your arm extended straight out and point the instrument straight down at the ground (and not in your shadow) Take 3 readings and record your average temperature*

Air Temperature: \_\_\_\_\_ (location 1)

Air Temperature: \_\_\_\_\_ (location 2)

Site's overall surface condition (circle one): Wet/Dry/Snow

Sky Conditions (circle one): Cloudy / Sunny / Hazy / Foggy / Overcast

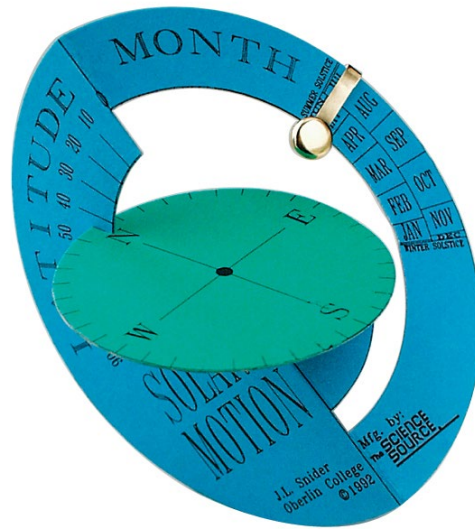
Surface Material	Temperature in the Sun	Temperature in the Shade	Notes: (include if material is natural or artificial)

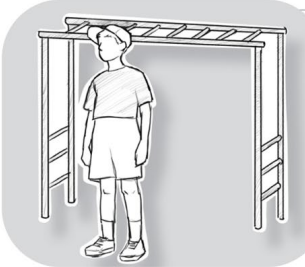


- *Modified* Surface Temperature Data Sheet
- Collected data for multiple surfaces in sun and shade (average was 21.7°C cooler in shade)



- Solar Motion Demonstrator





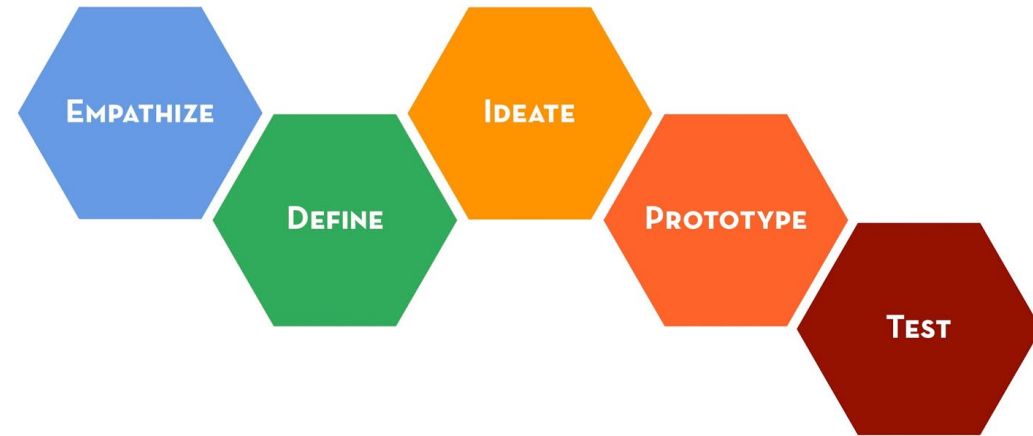
**Houston** — 6 years old, loves the monkey bars but they burn his hands. He also sometimes gets so excited playing, that he forgets to drink enough water. On hot days people can get dangerously dehydrated quickly, especially young children. Houston needs shade on his play structure and something that reminds him to drink water every 20 minutes.



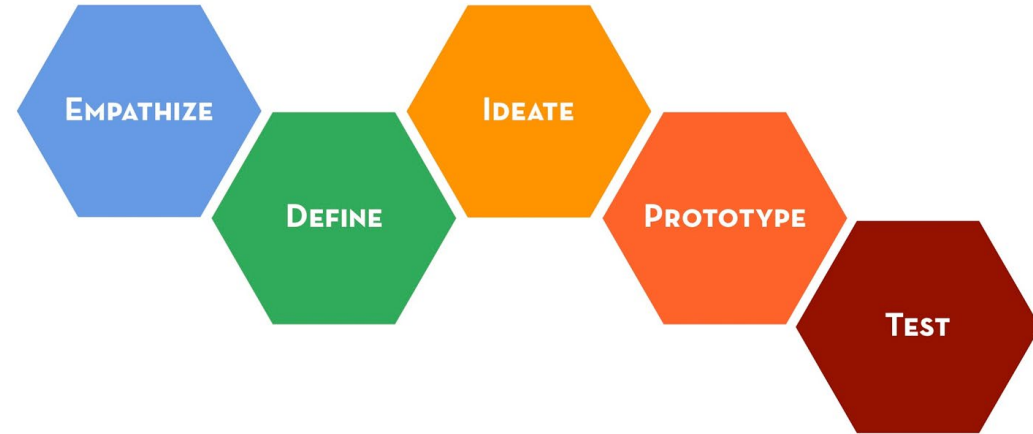
**Ike** — teacher at the school across the street. He comes to the park to eat at the picnic table and get some fresh air and peace and quiet. But on hot days, the seat is too hot to sit on, and the table heats up his tuna salad sandwich. He needs shade on his picnic table and a way to keep his sandwich cool.



**Gina** — lives in a city provided shelter. She is not allowed to be in the shelter between 9AM and 6PM, so often spends hours at the park during the day reading books, resting, and watching the birds. She needs shade and a safe place to take a nap.



- Personas for park users for the design challenge



- Prototype Testing:
  - Describe their surface material choices
  - Demonstrate path of sun (and shade) at summer and winter solstices using the solar motion demonstrator



## Highlights:

- Great for connecting teachers with each other (team building)
- High engagement and participation, and teachers asking for follow up with me, and resources sharing
- Nice to have some low tech engineering options (eg: site constraint of no tech available)

## Areas of support, reach out with ideas!

- Multiple GLOBE entry-points?
- Advice on next steps, or feedback!



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# The GLOBE Program

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