Green Team

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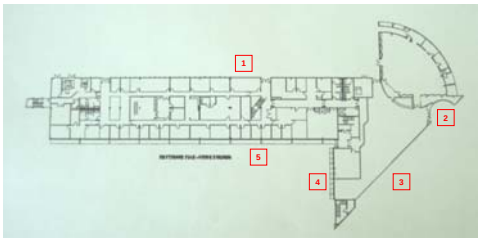
…for science.

Hypothesis

Glazing on the North, West, East, and Southeast façades will achieve the same temperatures between 1:00 and 2:00 p.m. on a moderately sunny day.

Site Plan Test Locations



Methodology

1. Selected several glazing areas on each façade.
2. Applied masking tape on inside and outside test windows to calibrate the emissivity.
3. Used Raytek MiniTemp on chosen window sites.
4. Recorded temperature of glass at distance of 4".
5. At each test site measured the metal framing temperature at 4".

Process

South façade

West façade

Southeast façade

...for science.

Results

	Glazing		Conditions
	Inside	Outside	
North	86	104	Indirect Sun
East (single-paned)	88	89	Shaded (front entrance)
Southeast	80	110	Indirect Sun
South	85	112	Indirect (lightshelves)
West	77	106	Indirect (lightshelves)

Ambient air temperature (no shade): 96°F
Ambient air temperature (shade): 86°F

Conclusions

- The ***outside*** glazing temperatures of the South and Southeast façades were closely correlated consistent with the fact that they received direct sunlight earlier in the day.
- The ***outside*** glazing temperatures of the North and West façades were closely correlated consistent with the fact they had not received any direct sunlight.
- Temperatures on the East façades significantly reflected the sheltered environment, single-paned glass, and use of the door.
- The inside temperatures were more consistent with one another, reflecting the air temperature of the individual rooms.

Appendix A – Additional Data

	Glazing		Metal Framing	
	Inside	**Outside**	**Inside**	**Outside**
North	86	104	92	94
East (single-paned)	88	89	91	91
Southeast	80	110	**82**	**107**
South	85	112	92	100
West	77	106	84	95

The metal framing of the Southeast façade measured the lowest indoor and highest outdoor temperatures.

Thank you to our facilitators (the tool kids)!