

The Controlled Cooking Test (CCT)



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End Goal

Work

?

Reward



Localized Stove Comparison



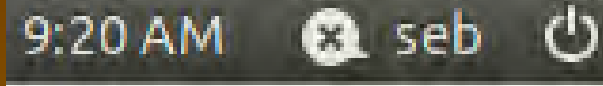
Multiple Cooks



Measurables



Food Cooked



Time



Fuel Use



Air Temperature



Charcoal Production

Controlled Quantities



Ingredient Weights



Fuel Type



Fuel Moisture Content

Observations to Make

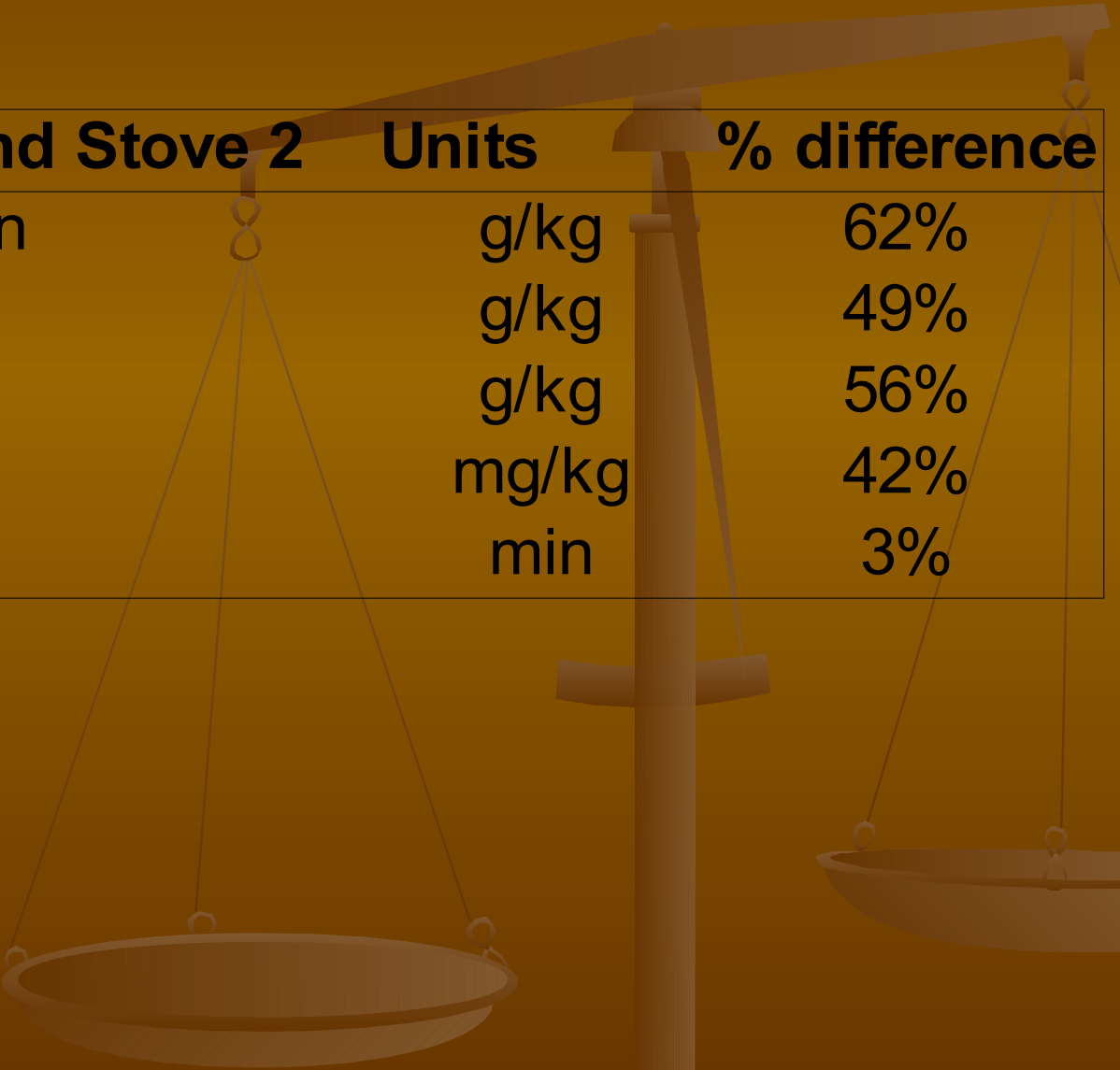
- Wind Speed
- Cooking Habits
 - Number of Sticks
 - Orientation of Sticks
 - Fire Starting Method



Data Collection

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	RS
1		CCT-1 for the 0										Wind conditions	no wind	#				
2		<i>Shaded cells require user input; unshaded cells automatically display outputs</i>										Air temperature	°C					
3		To be filled in after cooking task is complete (as defined by the directions on the "Description" worksheet)																
4			Initial measurements		Final measurements													
5			data	label	data	label												
6		MEASUREMENTS	Units					Comments about cooking process (smokiness, ease of use etc)										
7		Weight of wood used for cooking	g		f_1		f_2											
8		Weight of charcoal+container	g				c_c											
9		Weight of Pot # 1 with cooked food	g				$P1_1$											
10		Weight of Pot # 2 with cooked food	g				$P2_1$											
11		Weight of Pot # 3 with cooked food	g				$P3_1$											
12		Weight of Pot # 4 with cooked food	g				$P4_1$											
13		Time	min		t_1		t_2											
14		CALCULATIONS				Formula				CALCULATIONS				Formula				
15		Total weight of food cooked	g		$W_f = \sum_{i=1}^4 (P_i - P_i)$				Specific fuel consumption	g/kg		$SC = \frac{f_d}{W_f} \times 1000$						
16		Weight of char remaining	g		$\Delta c_c = \bar{k} - c_c$				total cooking time	min		$\Delta t = t_2 - t_1$						
17		Equivalent dry wood consumed	g		$f_d = (f_1 - f_2) \times (1 - 1.12 \times m) - 1.5 \times \Delta c_c$													
18		Description of stove (indicate the construction material of the stove, the way that the pot(s) fits in the stove, and the presence of insulation, chimney, workspace, etc):																
19																		
20																		
21																		
22																		
23																		
24																		

Results



Comparison of Stove 1 and Stove 2	Units	% difference
Specific fuel consumption	g/kg	62%
Specific CO production	g/kg	49%
Specific CO ₂ production	g/kg	56%
Specific PM production	mg/kg	42%
Total cooking time	min	3%

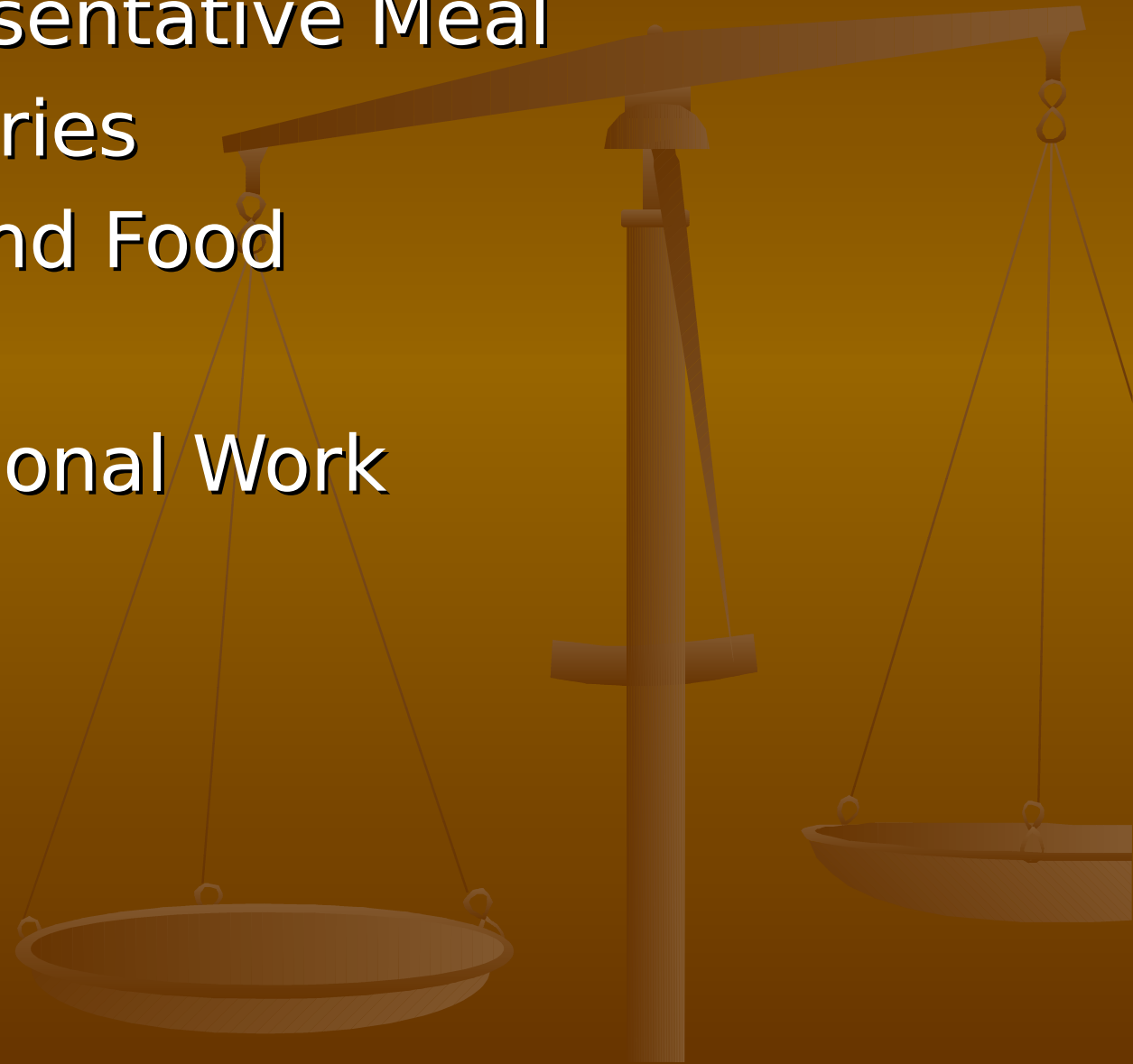
Major Strength



Food to Eat at End of Day!

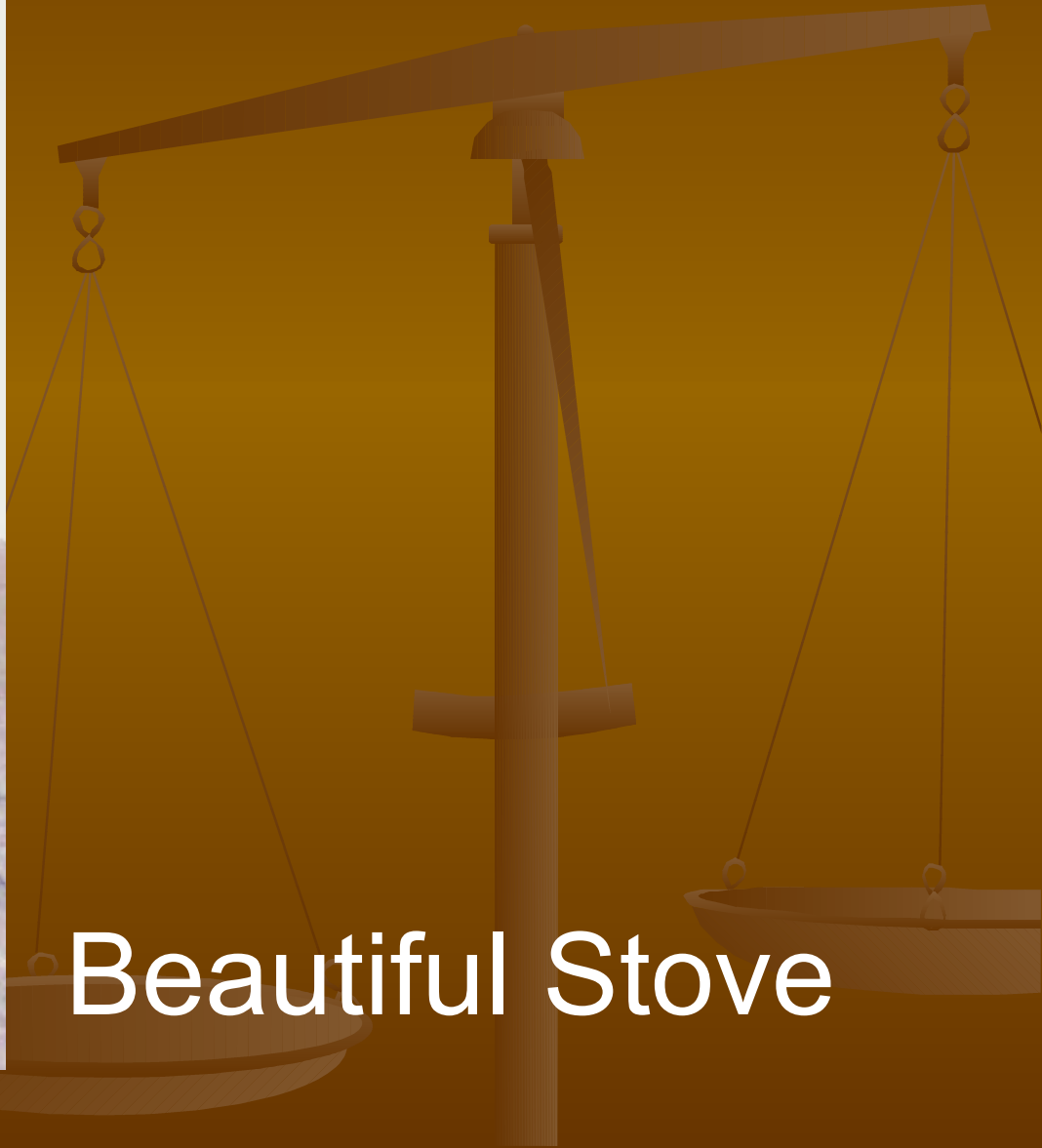
Weaknesses/Difficulties

- Choosing Representative Meal
- Time for Test Series
- Cost of Cooks and Food
- Cook's Bias
- Cost of International Work





End Result...



Beautiful Stove

