

Project 1: Relationship between body weight and Blood Pressure (BP) in a selected group of African-American youths.

Objective: To investigate if heavier youth have high blood pressure

Methods: The BP of TLSAMP summer bridge participants would be collected three times with 10 min interval. Body weight of the participants would also be recorded. Collected data would be organized and descriptive statistics would be performed on the data (Histogram, line graph etc.,).

A linear regression of body weight over systolic BP would be performed.

Subject	Body Weight (lb)	BP(Systolic/Diastolic)			
1	110	126/75			
2	126	167/78			
3	186	125/89			
4	143	126/76			
5	122	-			
6	128	-			
7	185	-			
8	123	-			
9	133	-			
10	132	-			

Project 2: Comparison of normal BP with BP under cold stress and exercise induced stress.

Objective: People with potential to develop hypertension and high blood pressure were shown to have their blood pressure elevate under stress. This simulated stress induced by cold temperature and exercise would help to identify subjects who could develop hypertension later in life.

Methods: Participants would be subjected to cold stress by immersing their hand in ice cold water for a few minutes and then their BP would be recorded and compared with BP recorded under normal condition. Subjects would also be asked to ride an exercise bike for 10-15 minutes and their BP would be recorded and compared with BP recorded under normal condition.

Subject	BP (Cold Stress)	BP(Exercise stress)	BP (Normal)		
1	110/76	126/75			
2	126/78	167/78			

3	186/86	125/89			
4	143/76	126/76			
5	122/71	-			
6	128/76	-			
7	185/84	-			
8	123/89	-			
9	133/74	-			
10	132/87	-			

Project 3: Rate of diffusion of methylene blue and comassie blue dye under three physical conditions.

Objective: To learn about the affect of temperature on the diffusion of dye molecules in a liquid medium. Heat energy excites molecules and increases the kinetics of molecular motion. In this exercise participants would use ice-cold water, boiling water and normal tap water and record the time it takes for the complete diffusion of the dye molecules in water under the above physical conditions.

		Methylene Blue	Commassie Blue
Tap Water	1.		
	2.		
	3		
Mean, SD			
Ice Water	1		
	2		
	3		
Mean, SD			
Boiling Water	1		
	2		
	3		
Mean, SD			

Perform Descriptive Statistics on the above Data.

Project 4: Water Imbibition by dry seed of three Dicot Plants.

Objective: Water Imbibition by dry seed is very important for the initiation of complex biochemical process that initiates seed germination. Force generated by Imbibition of water by seeds were used by early Egyptian civilization to crack huge block of stone for

building pyramid. This exercise would give an understanding about of the important factor of seed germination.

Kidney bean seed		Initial dry Weight	Final weight after one Hr		
	1				
	2				
	3				
Mean, SD					
Blackeye Pea	1				
	2				
	3				
Mean, SD					
ChickPea	1				
	2				
	3				
Mean, SD					

Perform descriptive statistics on the data.