

Table 1. Raw CFU data

Plate	CFU
B replicate 1	
B replicate 2	
B replicate 3	
B average	
C replicate 1	
C replicate 2	
C replicate 3	
C Average	
D replicate 1	
D replicate 2	
D replicate 3	
D average	
E replicate 1	
E replicate 2	
E replicate 3	
E average	

Which set of plates is best to use for the viable count calculations and why?

Table 2. Viable Population Counts

Tube/Bottle	Serial Dilution	Total Dilution	Average CFU (Colony Forming units)*	Viable Count (cells/ml) **
SC				
A				
B				
C				
D				
E				

*Note: For this column fill in only the row that matches the tube that gave you the statistically viable count.

** To get the viable counts for all tubes/bottles you will first need to calculate the viable count for the tube that gave you a statistically valid count. Next use the serial and total dilutions to figure out the viable counts for the other tubes (see steps 5 and 6 in part D).

Table 1. Percent transmittance.

Cuvette	Percent Transmittance	OD	Viable count (cells/ml)	Log number of cells
SC				
0.50 (1/2)				
0.25 (1/4)				
0.13 (1/8)				
0.06 (1/16)				

Now below plot the OD on the X axis and the Log Viable count on the Y axis. This is a standard curve of that can be used to estimate cell number of *E. coli* at various optical densities.

