## Compare Biological vs Technical Replicates

## BEST!!! Both variance terms go to zero the fastest.

Biological Replicates

Average = 
$$\mu$$
 +  $\frac{5-1+4+2-5}{5}$  +  $\frac{-2+5+2-2-1}{5}$   $\xrightarrow{\text{do...}}$  =  $\mu$ 

## PRETTY BAD

Some Biological replicates

Average = 
$$\mu$$
 +  $\frac{5+5-1-1}{5}$  +  $\frac{-2+5+2-2-1}{5}$ 

## WORST

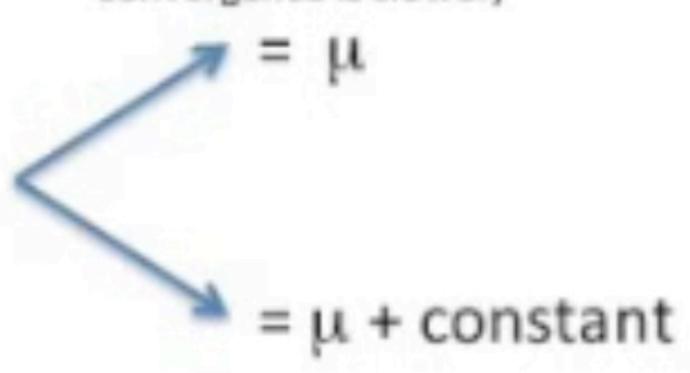
No Biological Replicates

The more samples you do...

Average = 
$$\mu + 5 + -2 + 5 + 2 - 2 - 1$$
 =  $\mu + 5$ 

The more samples you

But requires more biological reps. (and convergence is slower)



With only more technical reps.

