CONCEPT: COLUMN CHROMATOGRAPHY

●Chromatography, the most effective separation technique thus far, is saved for *last* when the sample size is _____.

□ Materials for some types of chromatography are _____ ($$$); the larger the sample, the more expensive.

5) Column Chromatography

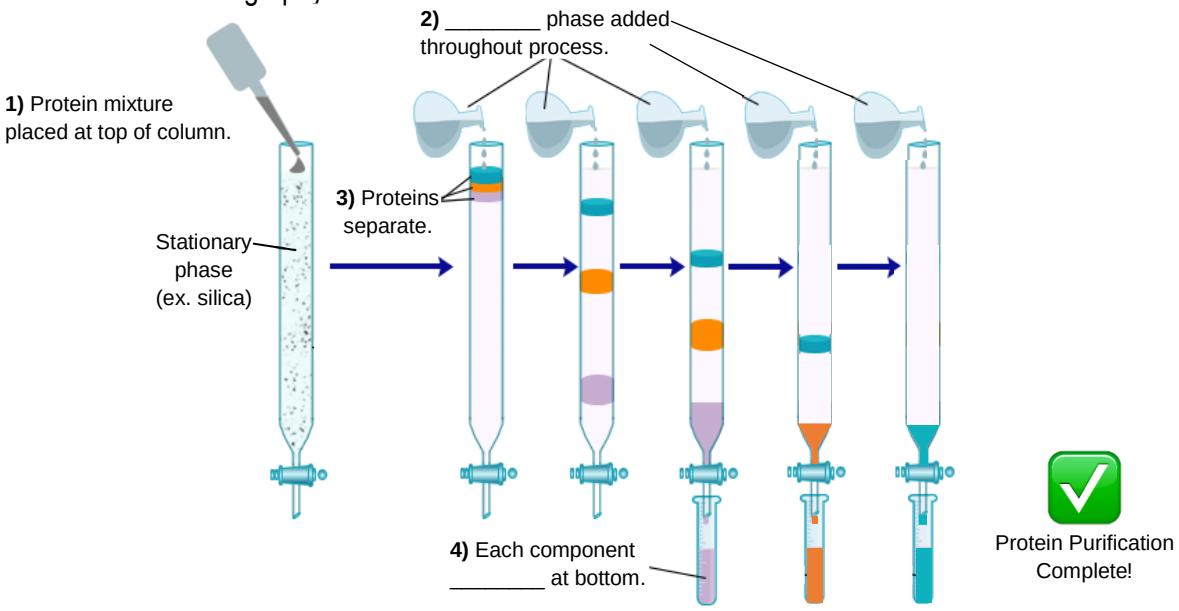
●*Column Chromatography*: separation technique using a *column* to purify specific _____ molecules from a mixture.

□ _____ *phase*: a solid material that is immobile (does _____ move) during chromatography.

□ _____ *phase*: a liquid material that is mobile (does move) during chromatography.

□ Mobile phase _____ over the stationary phase & interacts with components in the sample mixture.

EXAMPLE: Column Chromatography.



●Different components of the mixture have different _____ for the mobile/stationary phases, allowing for separation.

PRACTICE: Which of the following is true regarding the stationary phase?

a) The stationary phase flows over the mobile phase to separate proteins.

b) The protein sample is placed on the stationary phase & the mobile phase flows over it.

c) The stationary phase interacts with the mobile phase as they both move through the column.

d) Proteins with the strongest affinity to the stationary phase are eluted first.

PRACTICE: Which of the following techniques directly allows for effective separation/purification of a target protein?

a) Dialysis.

b) Salting out.

c) Chromatography.

d) Homogenization.