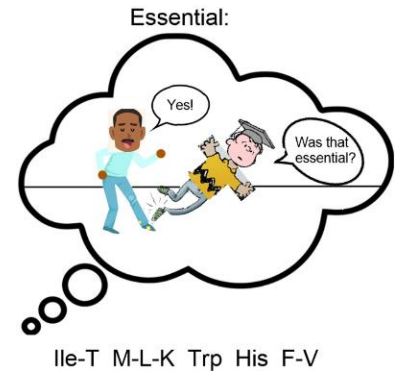
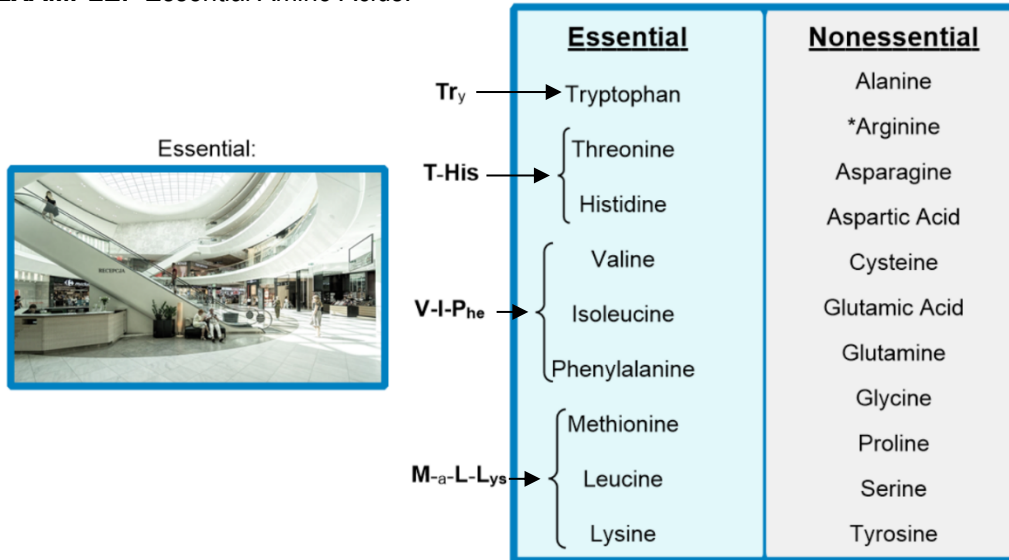


CONCEPT: ESSENTIAL AMINO ACIDS

Essential vs. Nonessential Amino Acids

- _____ amino acids: cannot be generated by the organism & must be consumed in the diet for survival.
- _____ amino acids: can be generated by the organism from other reactants & do not need to be consumed.

EXAMPLE: Essential Amino Acids.



PRACTICE: Which of the following amino acids is essential for humans?

- a) E b) C c) Y d) W

PRACTICE: Which of the following is a non-essential amino acid for humans?

- a) S b) T c) K d) H

PRACTICE: Deficiency in which of the following amino acids would be most detrimental?

- a) I b) G c) P d) A

PRACTICE: Circle all the essential amino acids in the chart below.

AlanineAla.....A	Glutamic Acid--Glu-----E	Leucine.....Leu.....L	Serine.....Ser.....S
Arginine.....Arg.....R	Glutamine.....Gln.....Q	Lysine.....Lys.....K	ThreonineThr.....T
Asparagine.....Asn.....N	Glycine.....Gly.....G	Methionine.....Met.....M	TryptophanTrp.....W
Aspartic Acid--Asp-----D	Histidine.....His.....H	Phenylalanine---Phe-----F	Tyrosine.....Tyr.....Y
CysteineCys.....C	Isoleucine.....Ile.....I	Proline.....Pro.....P	Valine.....Val.....V