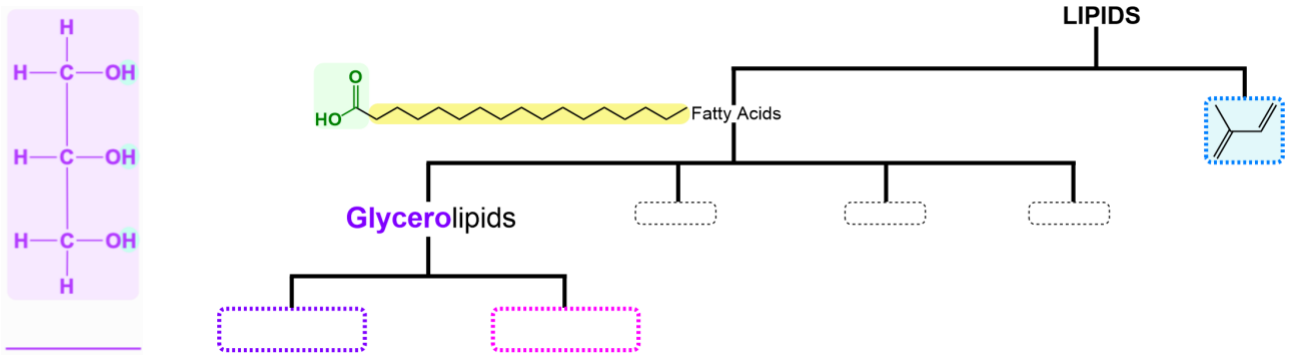
CONCEPT: TRIACYLGLYCEROLS

●*Glycerolipids*: lipids with *fatty acid* chains linked to a _____ molecule.



Triacylglycerols

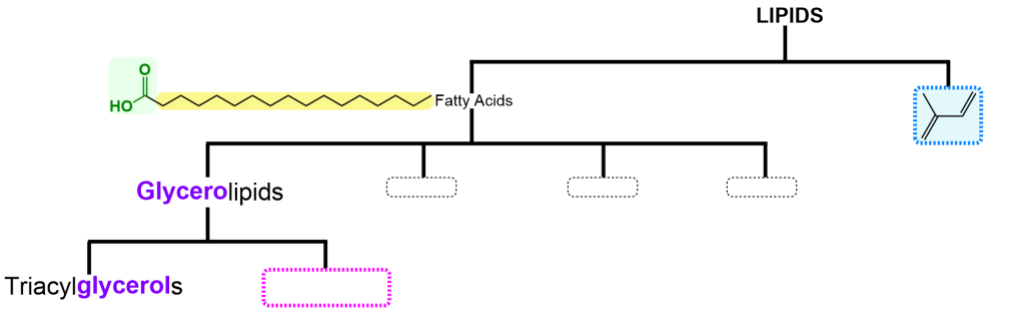
●_____*acylglycerols* (*Triglycerides*): lipids with _____ *fatty acid chains* linked to a single _____ molecule.

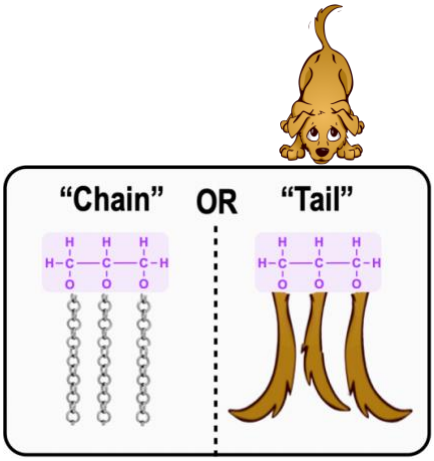
□ Fatty acids linked to glycerol via _____ *linkages formed by* _____ *synthesis* reactions.

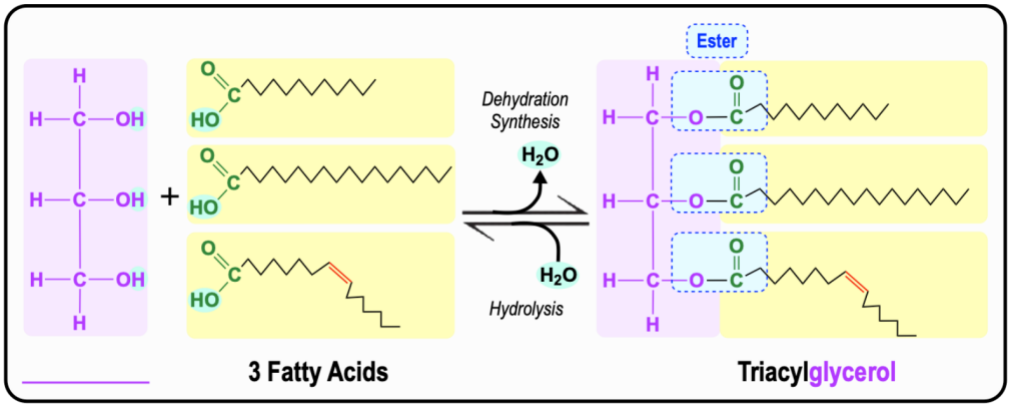
●Fatty acid chains of triglycerides can *either* be _____ or *different* from each other.

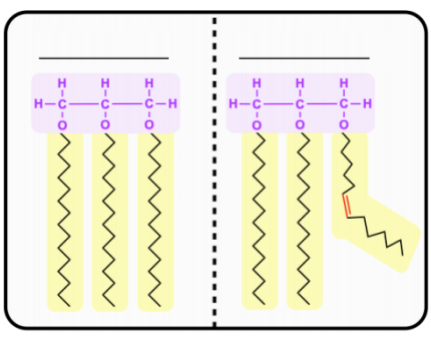
□ _____ *triacylglycerols*: contain 3 *identical* fatty acids.

□ _____ *triacylglycerols*: contain a *mixture* of fatty acid.









PRACTICE: What type of bond connects the fatty acid chains to the #1, #2, and #3 positions of glycerol in triacylglycerols?

a) Phosphodiester bonds.
b) Disulfide bonds.
c) Ether Bonds.
d) Ester Bonds.
e) Dehydration Bonds.

CONCEPT: TRIACYLGLYCEROLS

PRACTICE: Draw the structure of a triacylglycerol that contains all 18:0 fatty acids. Is this a simple or mixed triacylglycerol?

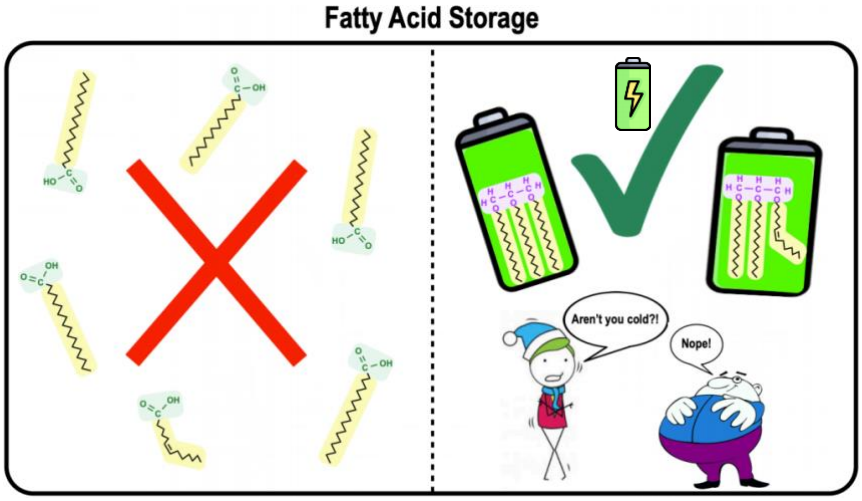
a) Simple triacylglycerol.

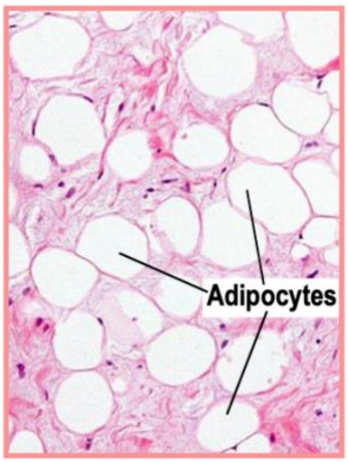
b) Mixed triacylglycerol.

Triacylglycerol Functions

- Triacylglycerols primarily function in *long-term* _____ of *fatty acids*.
  - □ Fatty acids can be completely *oxidized* to provide *more* _____ per unit mass than carbohydrates.
  - □ Can also serve as *thermal insulators* under the skin to maintain body _____.
- _____ (*Fat cells*): specialized *cells* that *synthesize* & *store* triacylglycerols.

EXAMPLE: Triacylglycerol Functions.





PRACTICE: The function(s) of triacylglycerols in animals include:

a) Storage for long-term energy.

b) Encoding genetic information.

c) Short-term energy storage.

d) Thermal insulation of body temperature.

e) A and D.

f) A & C.