

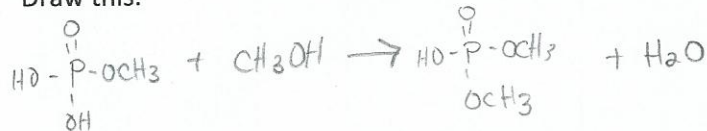
- Choline and serine are amino acids. They are alcohols with an ammonium group.
- Draw an example of the formation of a **phosphate ester**.

(phosphoric acid + alcohol → phosphate ester + water)

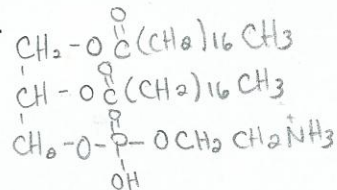
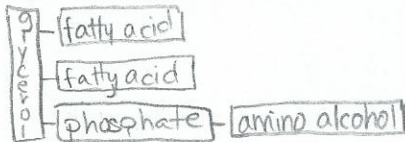


- Now, if you add more alcohol to the phosphate ester, a **phosphate diester** will form.

Draw this.



- Draw a cartoon of a **glycerophospholipid**. Next to it, draw an example using steric acid for the fatty acids and ethanolamine as the amino alcohol.



- A cell membrane is a lipid bilayer made of two rows of phospholipids. The polar heads face in / out while the nonpolar tails face in / out.
- Determine whether the description is either one for DNA or RNA.
 - DNA Stores genetic information
 - RNA Is found throughout the cell
 - DNA Directs cell function
 - DNA Is found in the cell nucleus
 - RNA Synthesizes proteins and RNA
- Label the following descriptions as either **mRNA**, **rRNA**, or **tRNA**.
 - rRNA Helps form the structure of the ribosomes
 - mRNA Carries the DNA information from the nucleus to the ribosomes, where protein synthesis occurs
 - tRNA Brings specific amino acids to the ribosomes

- Give three descriptions of nucleic acid structure: what are they, what is the primary structure, and what is the secondary structure?

- single stranded polymers made of 4 nucleotides
 - primary structure: the nucleotide sequence
 - secondary structure: the double helix

- What are nucleotides and what are the three parts that they consist of?

- the building blocks of nucleic acids

- 3 parts:

- 1) amine (the base)
- 2) sugar (a pentose)
- 3) phosphate