CONCEPT: AMINO ACID OXIDATION

- Urea cycle – occurs in liver, removes amino groups from amino acids so they may enter the citric acid cycle
    - □ 2 nitrogen enter the cycle to ultimately leave the body as urea, and it costs 3 ATP

1. Carbamoyl phosphate is formed from HCO_3^- + NH_4^+, 2ATP is consumed in the process
2. Ornithine enters the mitochondria and combines with carbamoyl phosphate, releasing P_i
3. Citrulline moves back to cytosol and combines with Asp, ATP → AMP + PP_i (pyrophosphatase hydrolyzes into 2 P_i)
4. Arginosuccinate is cleaved into fumarate and arginine
5. Arginine is cleaved into urea and ornithine