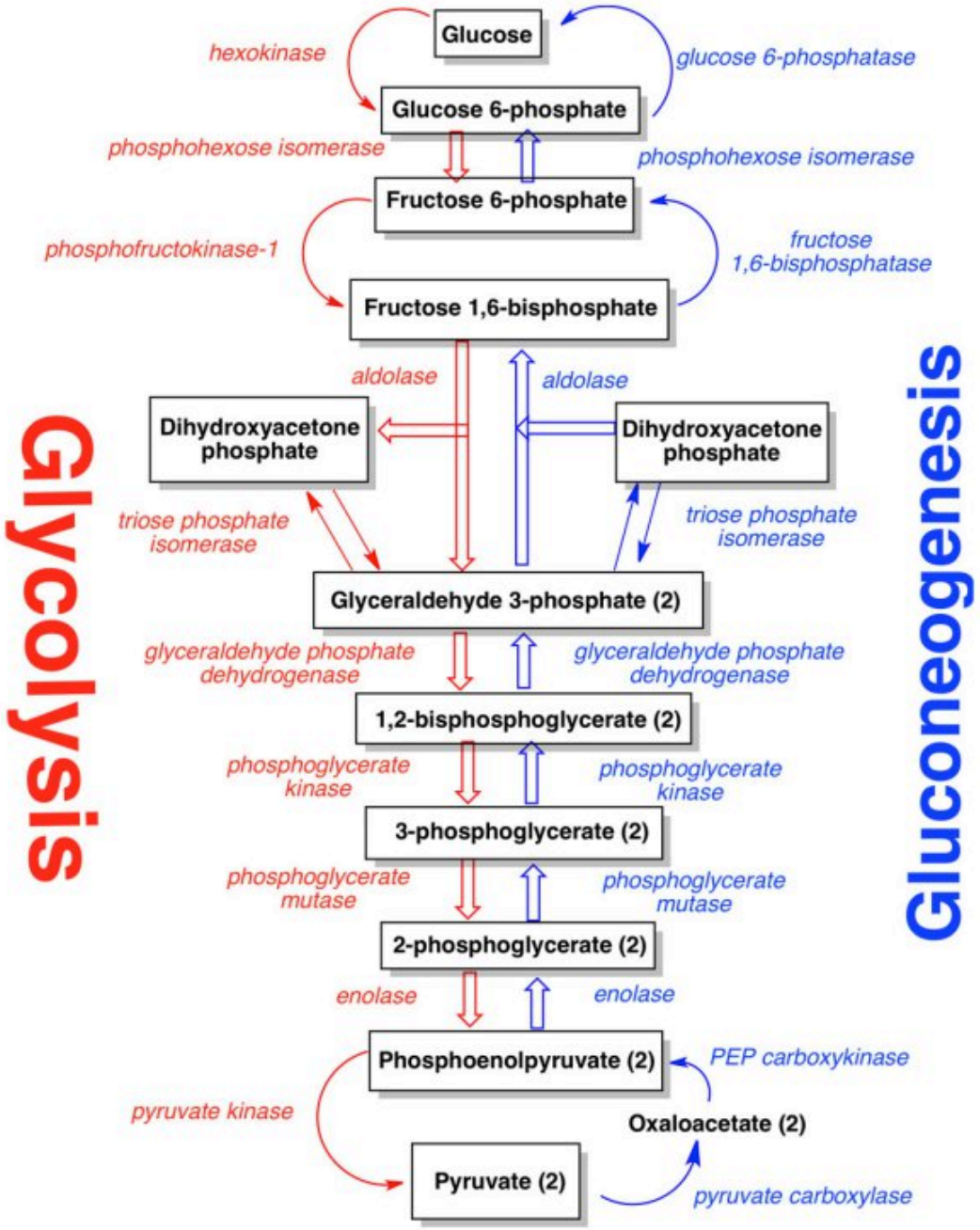
CONCEPT: GLUCONEOGENESIS

- Gluconeogenesis uses many of the same enzymes as glycolysis because their reactions are readily reversible
  - □ Reactions 1, 3, and 10 cannot simply be reversed because they are too favorable, new enzymes required
- Gluconeogenesis creates glucose from a variety of feeder molecules
  - □ Fats – only glycerol can enter gluconeogenesis
  - □ Amino acids – only L and K are unable to be gluconeogenic, others can only contribute certain carbons
  - □ Lactate can be converted to pyruvate



- 2 Pyruvate + 4 ATP + 2GTP + 2NADH are used to form one glucose
- Glycolysis and gluconeogenesis occur in the cytosol, but don't occur simultaneously
  - □ The two pathways are tightly regulated so they don't become a futile cycle