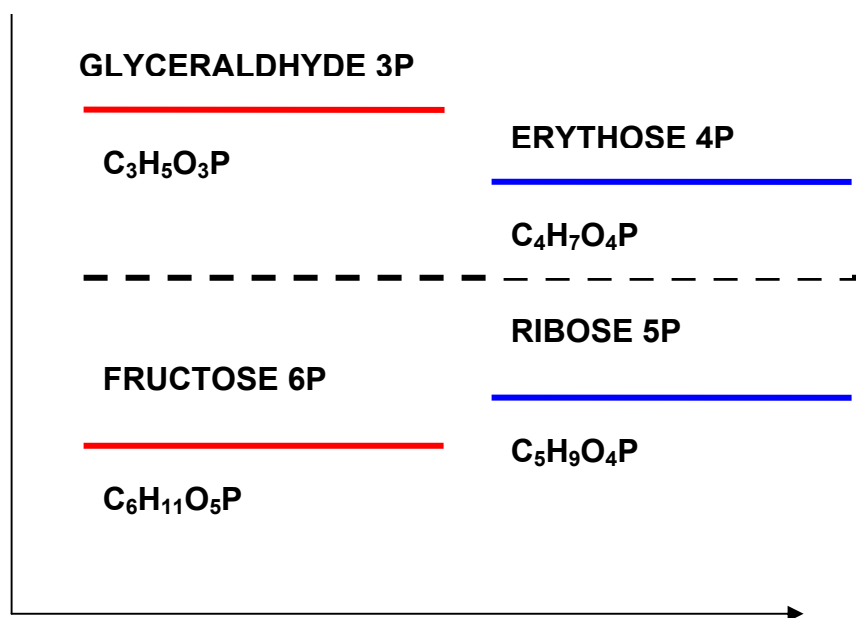
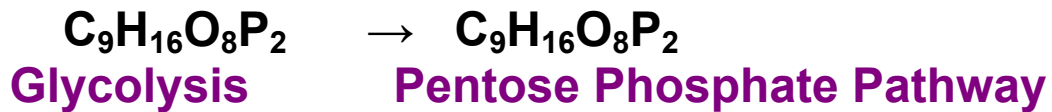


REDOX NEUTRAL REACTION REARRANGEMENTS



The first step in the Pentose Phosphate Pathway involves the formation of Ribulose 5 Phosphate from Glucose 6 Phosphate with the production of NAD(H) and CO₂. This NAD(H) must be used and converted back to NAD⁺. This requires an electron acceptor, usually oxygen.

In an anaerobic environment, oxygen is unavailable as an electron acceptor. This means that either an alternative electron acceptor needs to be found (for example, sulfate) or that an alternative route must be found for the production of five carbon sugars which are necessary for the production of RNA and DNA. A redox-neutral reaction rearrangement is one way in which this can be achieved.