GLYCOLYSIS

E — Embden
M — Meyerhof
P — Parnas

- Common for both aerobic and anaerobic respiration

→ Glyco → Glucose
→ Lysis → Breakdown

1 Glucose ($C_6H_{12}O_6$) → 2 Pyruvic Acid ($C_3H_4O_3$) + 2NADH

PREPATORY PHASE

Precursor → Glucose

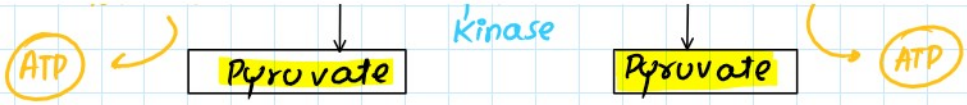
GLUCOSE
ATP → ADP, Pi — Hexokinase — "PHOSPHORYLATION"
GLUCOSE 6-P
Phosphohexose isomerase — "ISOMERIZATION"
FRUCTOSE 6-P
ATP → ADP, Pi — Phosphofructo kinase — "PHOSPHORYLATION"
FRUCTOSE 1, 6-Bis-P
Aldolase — "SPLITTING"
G3P ⇌ DHAP
Phosphotriose isomerase

Product → G3P, DHAP
Energy Budget → 2 ATP utilization

OXIDATIVE PHASE

G3P, DHAP
NAD+ → NADH, Pi — Triose Phosphate dehydrogenase
1,3 BPG
ADP + Pi → ATP — Phosphoglyceric Acid Kinase
3PG
Phosphoglycero mutase
2PG
Enolase — H_2O
PEP
ADP + Pi → ATP — Pyruvate Kinase
Pyruvate

- SUBSTRATE LEVEL PHOSPHORYLATION



ENERGY BUDGET :

Total	ATP	→	4
Used	ATP	→	2
NET	ATP	→	4 − 2 = (2)