RESPIRATION IN PLANTS

GLYCOLYSIS

GLYCOLYSIS:

- It is a partial oxidative process in which Hexose sugar (Glucose or fructose) splits to form two molecules of pyruvic acid.
- It is also called **EMP pathway** because it was discovered by three German scientists **Embden, Meyerhof and Parnas.**

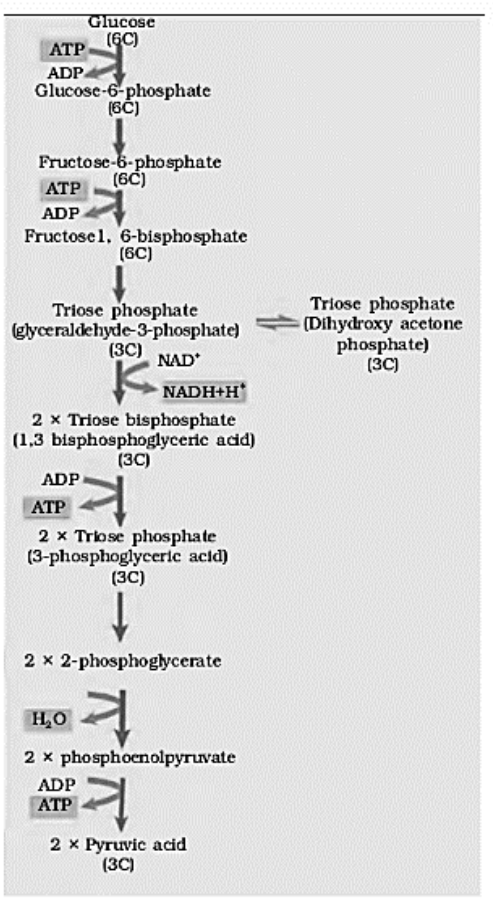

Fig. Steps of glycolysis

ANALYSIS OF GLYCOLYSIS OF ONE MOLECULE OF GLUCOSE (6C):

Consumption of ATP = 2

Production of ATP = 4

Direct net gain of ATP = 2

Production of NADH + H^+ = 2

Carbon skeleton / end product of glycolysis = 2 molecules of pyruvate (3C)

2 molecules of NADH+H^+ enter into mitochondria and are oxidized through ETS to form 6 ATP. So glycolysis in aerobic condition can cause net gain of 2 + 6 = 8 ATP.

Ques.	**Can you then calculate how many ATP molecules are directly synthesised in this pathway from one glucose molecule?**
Ans.	4 ATP