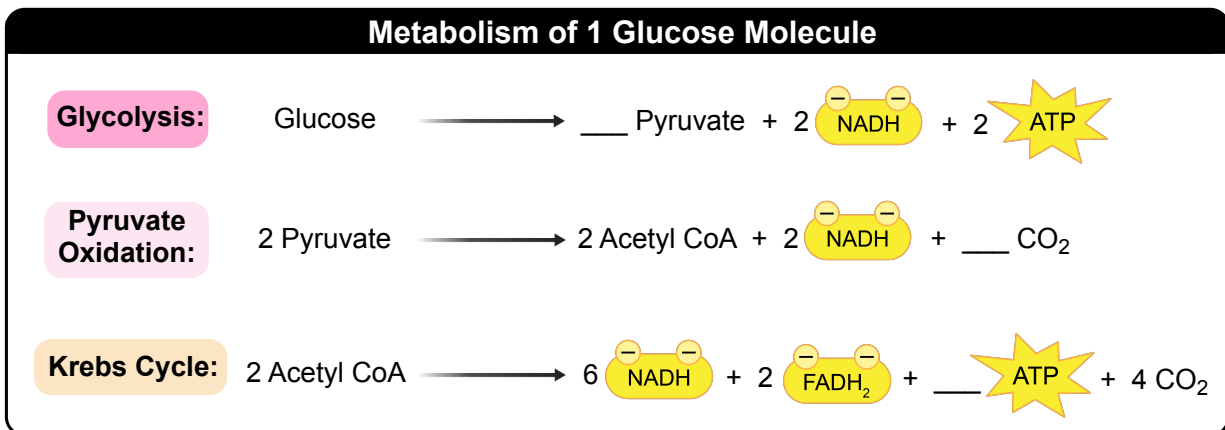






CONCEPT: TOTAL ENERGY FROM GLUCOSE

- Complete oxidation of ___ glucose molecule produces the following:



EXAMPLE: Glycolysis yields ___ ATP and ___ NADH molecules, pyruvate oxidation yields ___ NADH molecules.

- Total _____ yield from 1 glucose molecule is summarized in the table below.

	Glycolysis	Pyruvate Oxidation	Krebs Cycle (Citric Acid)	Oxidative Phosphorylation	TOTALS
Start Molecule	Glucose	2 Pyruvate	2 Acetyl-CoA	NADH & FADH ₂	
			4	0	
			2	<div style="border: 1px dashed red; width: 40px; height: 20px; display: flex; align-items: center; justify-content: center;"> </div>	
			2	0	
			6	0	
End Molecule	2 Pyruvate	2 Acetyl-CoA	Oxaloacetate	H ₂ O	

- ATP yield through oxidative phosphorylation:

$$\begin{aligned}
 &10 \text{ NADH} \times \text{___ ATP} = \text{___ ATP} \\
 &+ 2 \text{ FADH}_2 \times \text{___ ATP} = \text{___ ATP} \\
 &\text{_____} \\
 &\quad \quad \quad \text{ ATP molecules*}
 \end{aligned}$$

CONCEPT: TOTAL ENERGY FROM GLUCOSE

PRACTICE: Which stage of glucose metabolism produces the majority of ATP?

- a) Citric acid cycle
- b) Digestion
- c) ETC + Oxidative Phosphorylation
- d) Glycolysis

PRACTICE: How many total equivalent ATP molecules would be produced from 3 moles of glucose through glycolysis in aerobic environment?

- a) 2 ATP
- b) 6 ATP
- c) 7 ATP
- d) 21 ATP

PRACTICE: The total equivalent ATP yield from: 2 pyruvate \longrightarrow 2 Acetyl CoA + 2 CO₂.

- a) 0 ATP
- b) 2 ATP
- c) 5 ATP
- d) 10 ATP