CORNELL NOTES US Letter · 8.5 × 11 in

Name Sample Student **Class** BIO 101 · Lecture 7 **Date** Sept 15, 2026

Topic / question Cellular respiration: how cells get ATP from glucose

CUES / QUESTIONS	NOTES
What is cellular respiration for?	Big idea: cells break down glucose
	to make ATP, the energy cells can use.
Write the overall equation.	$C_6H_{12}O_6 + 6\ O_2 \rightarrow 6\ CO_2 + 6\ H_2O + ATP$
Glycolysis: where, and net ATP?	1) Glycolysis: cytoplasm.
	Glucose → 2 pyruvate. Net 2 ATP + 2 NADH.
	Does not need O_2.
What does the Krebs cycle release?	2) Krebs cycle: mitochondrial matrix.
	Releases CO_2; loads NADH + $FADH_2$; 2 ATP.
Why does the ETC need oxygen?	3) Electron transport chain (ETC):
	inner mitochondrial membrane.
	O_2 = final electron acceptor → H_2O.
	Makes most of the ATP.
What happens without O_2?	No O_2 → fermentation (lactic acid).
	Only glycolysis ATP. ? Ask: why so little?

SUMMARY

Cellular respiration turns glucose and oxygen into CO_2, water, and ATP in three stages. Glycolysis makes a little ATP without oxygen, the Krebs cycle releases CO_2 and loads electron carriers, and the electron transport chain uses oxygen to make most of the ATP. Without oxygen, cells fall back on fermentation.