The Practise Ground

Class 10-12 Biology

Respiration & ATP

How cells release energy from food

1

$C_6H_{12}O_6 + 6O_2$

Aerobic respiration

Gives $6CO_2 + 6H_2O$ + energy; 30 to 38 ATP

2

Glucose gives ethanol + CO_2

Anaerobic: yeast

Fermentation; only 2 ATP per glucose

3

Glucose gives lactic acid

Anaerobic: muscle

Happens in hard exercise; causes cramps

4

Glycolysis, Krebs cycle

Where it happens

Glycolysis in cytoplasm; Krebs cycle in mitochondria

ATP	O_2	CO_2	Glu	Mito
energy currency	**oxygen**	**waste gas**	**glucose**	**mitochondria**
cell use	aerobic	out	fuel	site

Remember

Respiration is not breathing. Breathing brings in oxygen; respiration releases energy.

Aerobic gives far more ATP than anaerobic.

Quick question

Why does dough rise?

Yeast respires anaerobically and releases CO_2 bubbles.

Think you've got it? Test yourself.

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