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Respiration

- It is controlled by enzymes and energy is released from the breakdown of organic substances. It is of two types that are aerobic and anaerobic

Aerobic respiration

- Oxidation of food materials by oxygen
- Produces 36 ATP
- The steps followed in cellular respiration

First step is breakdown of glucose (6C) into pyruvates (3C) in the cytoplasm

Second step- Pyruvate is then broken down to CO₂ and water and it takes place in the mitochondria where energy is produced in ATP form.

Anaerobic respiration

- It is the Oxidation of nutrients without using up the molecular oxygen
- It gives 2 ATPs.
- **First step-** glycolysis in cytoplasm, 2 pyruvate produced
- **Second step is the** break down of pyruvic acid into ethanol and water and energy (in yeast) and lactic acid and energy (in muscle cells)