Spec ref: 4.4.2.1

KEY FACTS

- Aerobic respiration releases energy as ATP from glucose using oxygen
- Occurs in MITOCHONDRIA
- Products: carbon dioxide + water
- Cells with high energy demands have MORE mitochondria (e.g. muscle, sperm cells)
- NOT the same as breathing — respiration is a chemical process in all cells

EQUATIONS / FORMULAS

Aerobic respiration: glucose + oxygen → CO■ + water (+energy/ATP)

Symbol: C■H■■O■ + 6O■ → 6CO■ + 6H■O

KEY TERMS

Aerobic respiration	Releases energy as ATP using oxygen — occurs in mitochondria
ATP	The energy currency of cells — produced by respiration
Mitochondrion	Organelle where aerobic respiration occurs

■ EXAM TIP: Respiration ≠ breathing. Respiration is a CHEMICAL process in ALL living cells. Breathing is physical movement of air. Never confuse them.