# Year 8 Respiration Knowledge Organiser



## 1. Aerobic Respiration

### Glucose + Oxygen -> Carbon dioxide + water (+ energy)

Series of reactions that takes place in the cells of living organisms

Energy is released Takes place in the mitochondria

Oxygen is carried from the lungs to the cells in the blood
Carbon dioxide and water are waste products and are taken away from the cells to the lungs by the blood

## 2. Anaerobic Respiration

## Glucose -> Lactic Acid ( + energy)

No oxygen needed

Does not release as much energy as aerobic respiration but is quicker

Lactic acid builds up in muscles causing them to ache

### 3. Fermentation

#### Glucose —> Ethanol + Carbon Dioxide

Anaerobic respiration happens in microorganisms such as bacteria as they need to release energy from glucose.

Yeast carry out a process called **fermentation**The ethanol (alcohol) is useful for brewers
Carbon Dioxide is useful for bakers (makes bread rise)

4. Keywords	
Respiration	Process in living things to release energy from glucose
Aerobic respira- tionn	Respiration that requires oxygen
Anaerobic respiration	Respiration without oxygen
Lactic acid	A chemical produced during anaerobic respiration
Mitochon- dria	Structures in the cytoplasm of all cells where aerobic respiration takes place
Oxygen debt	The amunt of extra oxygen required by the body for recovery after vigorous exercise

