Without Oxygen (anaerobic): followed by fermentation

There are two main types of fermentation: alcoholic fermentation and lactic acid fermentation.

Alcoholic Fermentation

Yeasts and a few other microorganisms (bacteria) use this process.

The equation for alcoholic fermentation is:

pyruvic acid + NADH \rightarrow alcohol + CO_2 + NAD^+

This is the process that causes bread to rise.

Lactic Acid Fermentation

The equation for lactic acid fermentation is:

Pyruvic acid + NADH → lactic acid + NAD⁺

- -When you exercise rapidly, and your body can not get enough oxygen to your tissues, lactic acid is produced. This causes a painful, burning sensation. It is also why your muscles feel sore after vigorous exercise.
- -Some prokaryotic organisms produce lactic acid as a waste product of fermentation and it is used to produce a wide variety of foods, such as yogurt and sour cream.