

Production of Energy through Cell Respiration

7.1 Production of Energy through Cell Respiration

- The catabolism process releases energy.
- The anabolism process uses energy

Aerobic respiration

Require oxygen to oxidize respiration substrate such as glucose completely to produce carbon dioxide, water, and energy.

Example: plants, fungi, Protista, animals, and some bacteria.

Anaerobic respiration

Break down respiration substrate completely such as glucose by using non-organic substances such as nitrate or sulfate, non-oxygen to produce carbon dioxide, water, and energy.

Example: denitrifying bacteria and bacteria *Clostridium tetani*

Fermentation

Break down respiration substrate such as glucose partially without using oxygen.

Example: plants, yeast, certain bacteria, and musculoskeletal vertebrates.