

Without respiration, life as we know it wouldn't exist.

Respiration is one of the most important chemical processes involved in life.

Respiration is a series of chemical reactions that release the energy that cells need to do everything.

From tiny, single-cell organisms to multicellular organisms, such as fungi or plant cells. Every cell in your body gets its energy using respiration.

Aerobic respiration is the reaction of glucose from food, with oxygen to produce carbon dioxide and water. This releases the energy that living cells need.

In most cells, respiration takes place in tiny organelles called mitochondria, which are found in the cytoplasm. These organelles are sometimes called cellular power plants.

The fundamental reaction that takes place inside these mitochondria is usually slow and controlled, but it can be simulated in the lab in a much more dramatic way.

In this demonstration, we are using an oxidising agent and some heat. Just as cells respire by combining oxygen with glucose, the oxidising agent in the test tube is about to oxidise the glucose in this jelly baby.

This is essentially what is going on in our own bodies. Food is changed into energy but not in such an explosive way.

Remember, respiration is not breathing. It is actually the series of chemical reactions that takes place in every living cell.