

CELLULAR RESPIRATION

What is cellular respiration?

Cellular respiration is a process that cells use for creating energy. When you eat food, your body converts carbohydrates into glucose (sugar). In cellular respiration, the glucose is used for energy. This process occurs in both animals and plants.

What is the result of cellular respiration?

The result of cellular respiration is simple; carbon dioxide (CO₂), water (H₂O), and ATP (energy). The formula for cellular respiration can be written in two ways:



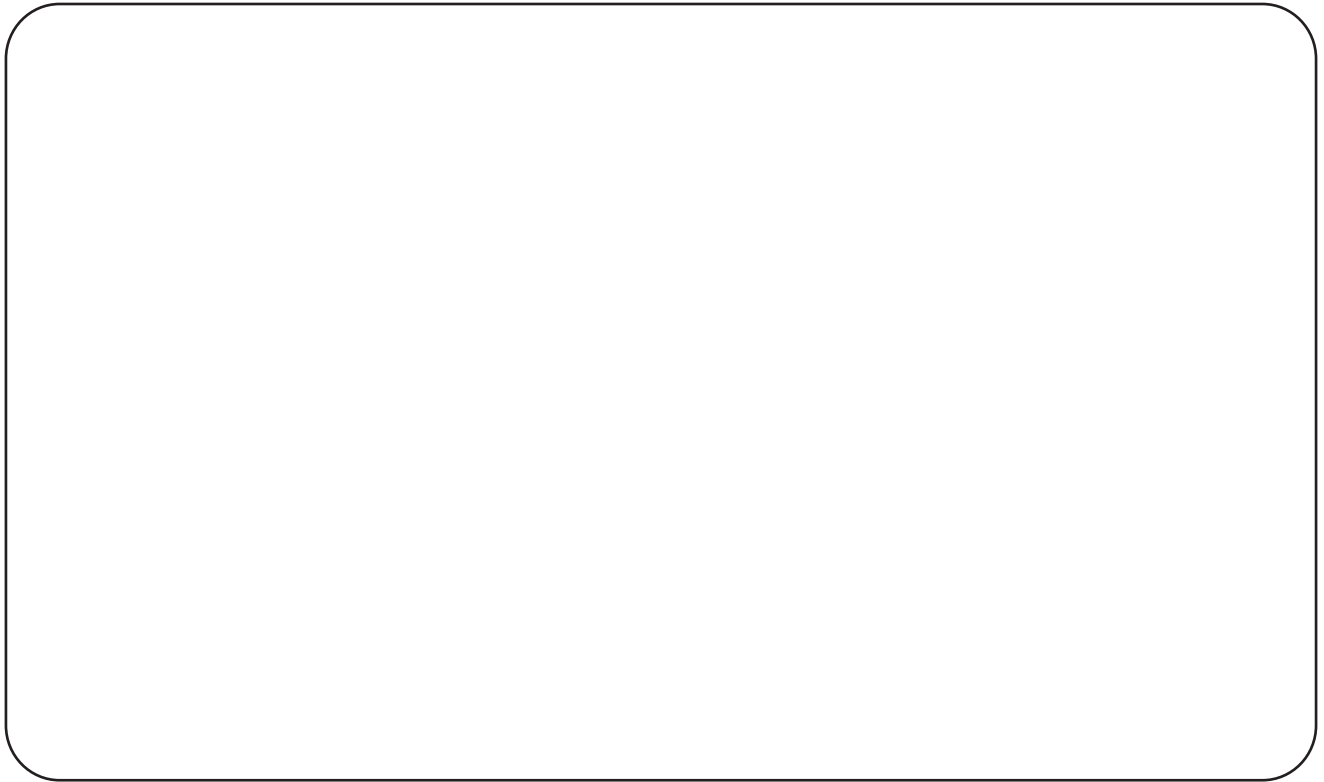
or



Both formulas above say the same thing: in the process of cellular respiration, **glucose is converted into carbon dioxide, water, and a type of energy called ATP**. Said in another way, the result of cellular respiration is water, carbon dioxide, and energy.

Mitochondria & Cellular Respiration

Draw picture of a mitochondrion and explain its purpose.

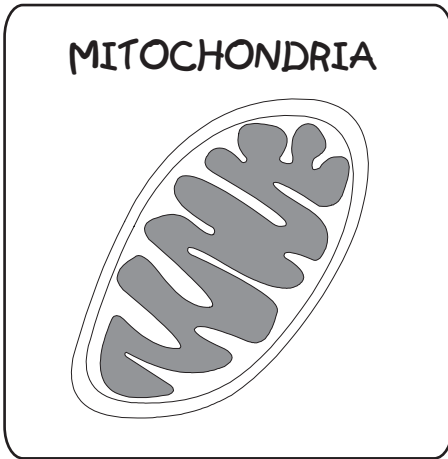


Write the formula for the result of cellular respiration.



Mitochondria

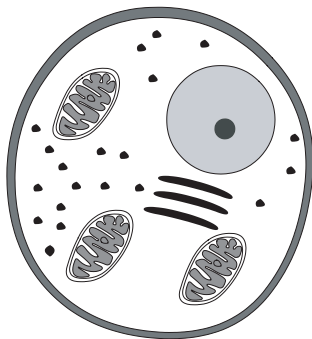
The process of cellular respiration occurs in organelles called the mitochondria. A single cell may have thousands of mitochondria. As we covered in the previous section, you learned about an organelle found in plant cells called chloroplast. Chloroplasts are responsible for carrying out photosynthesis.



Although both mitochondria and chloroplasts are organelles, they both have vastly different jobs. Also, mitochondria can be found in both plant cells and animal cells. Chloroplasts are found only in plant cells.

The main purpose of the mitochondria is **to keep the cells full of energy**. Our muscles have more mitochondria because muscle cells need more energy.

1) Below is a cell with different organelles. Can you identify the mitochondria? You may circle your answer.



How many mitochondria do you see? _____

2) What is the purpose of the mitochondria? _____

3) Are mitochondria organelles? _____

4) How are mitochondria and chloroplasts alike? _____

5) How are they different? _____
