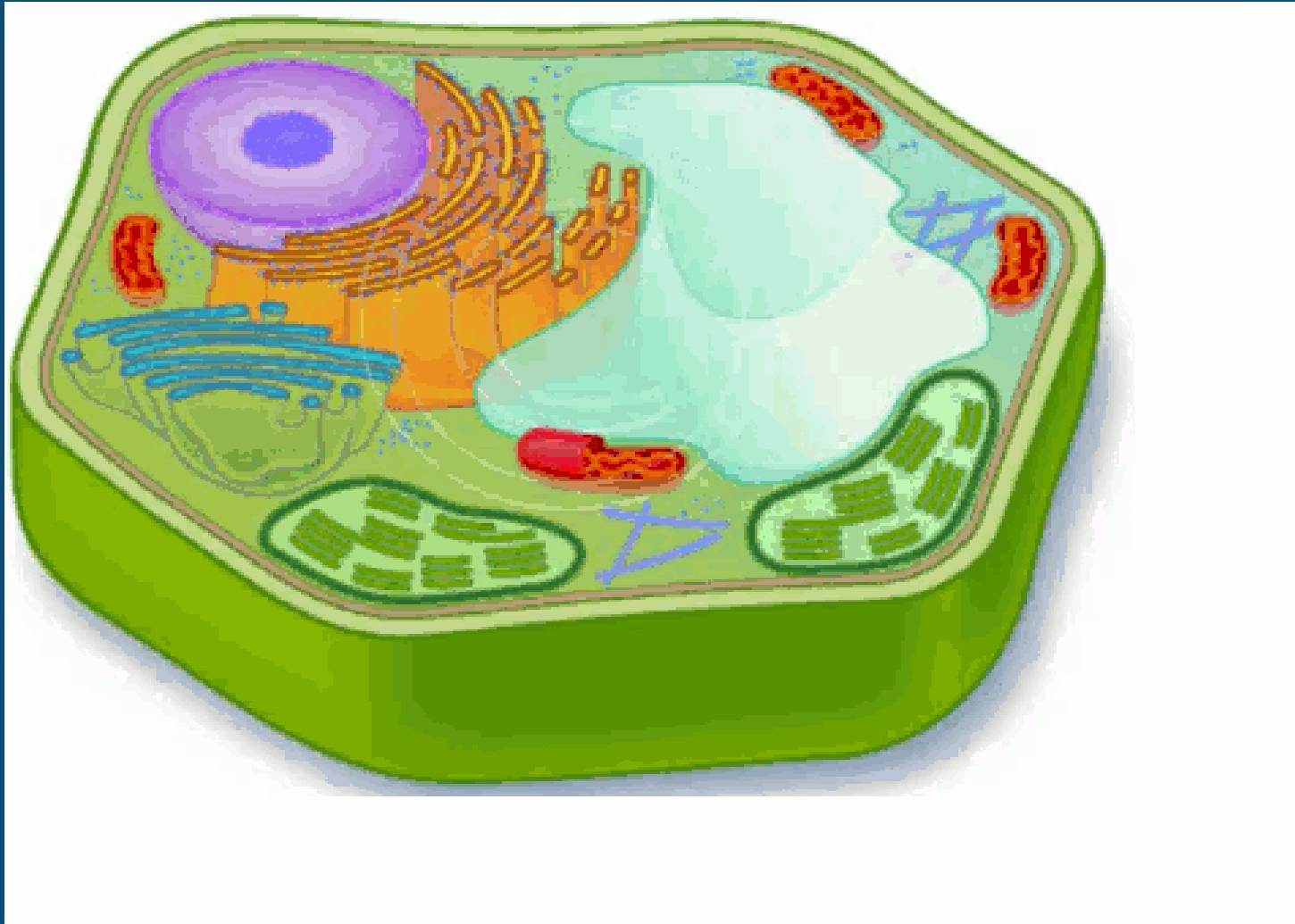


MITOCHONDRIA



Mitochondria

- ❖ Mitochondria are very important organelles of eukaryotic cells, because they are involved in the manufacture and supply of energy to the cell. They are also known as powerhouses of the cell.
- ❖ Under compound microscope they appear to be vesicles, rods or filaments. Under an electron microscope, they show complex morphology. Although their number, shape and internal structure vary widely.
- ❖ A mitochondrion is bound by two membranes, the outer membrane is smooth, while the inner membrane forms infoldings into the inner chamber called mitochondrial matrix. These enfolds are called cristae.

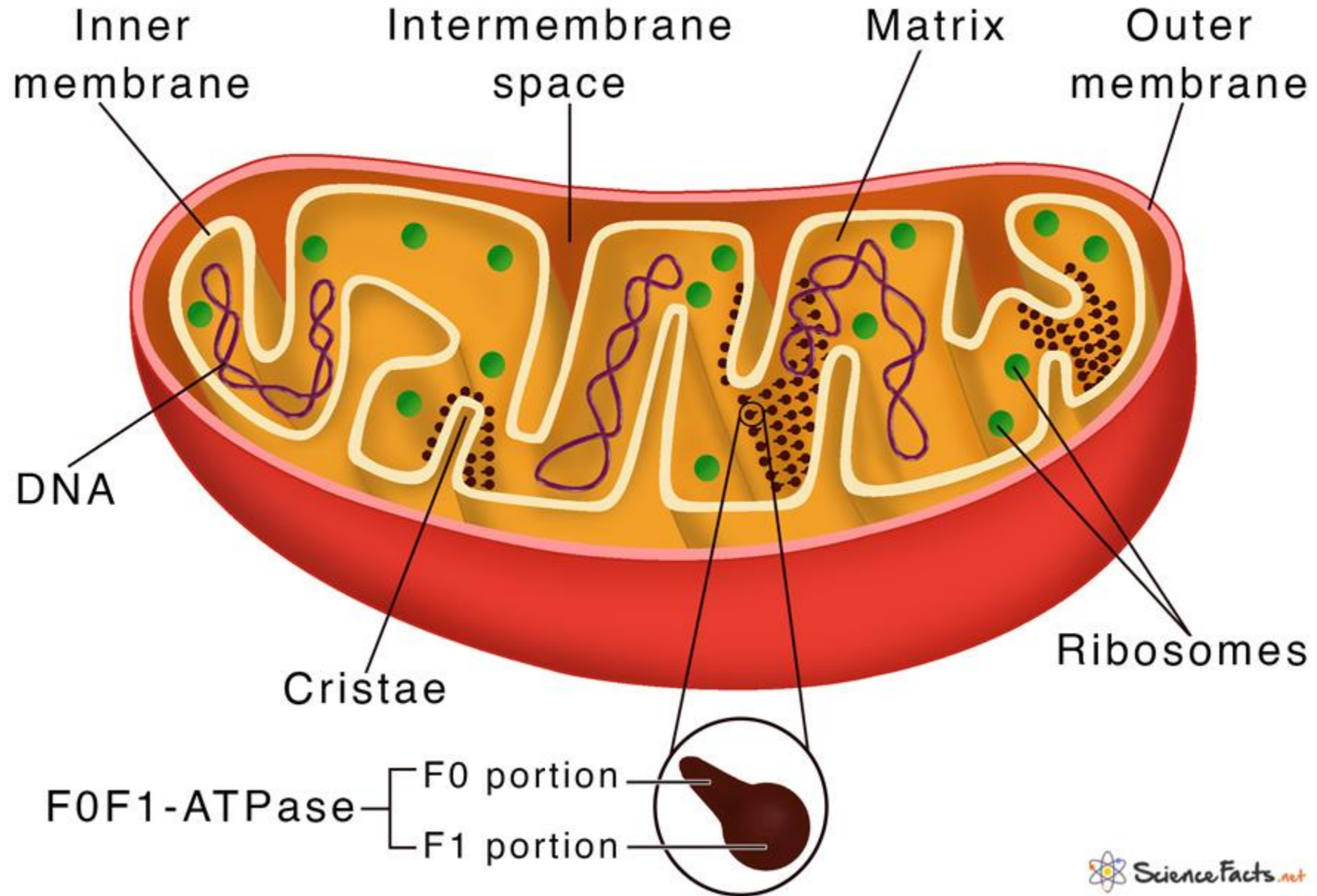
Mitochondria

- ❖ The mitochondrial membranes are similar in structure to other cell membranes. Detailed studies have shown that mitochondria also contain DNA as well as ribosomes.
- ❖ The presence of ribosomes and DNA indicates that some proteins are synthesized in them. It is a self replicating organelle.
- ❖ The inner surface of cristae in the mitochondrial matrix has small knob like structures known as F1 particles

Mitochondria

- ❖ Mitochondrial matrix contains in it a large number of enzymes, coenzymes and organic and inorganic salts which help in several vital metabolic processes like Kreb's cycle, aerobic respiration, fatty acid metabolism etc.
- ❖ As a result of these metabolic processes the energy extracted from the organic food is transformed into energy rich compound ATP (adenosine triphosphate), and the ATP then provides energy to the cell on demand. The size and number of mitochondria varies and depends on the physiological activity of the cell.

Mitochondria



THE END