

The Mighty Mitochondria

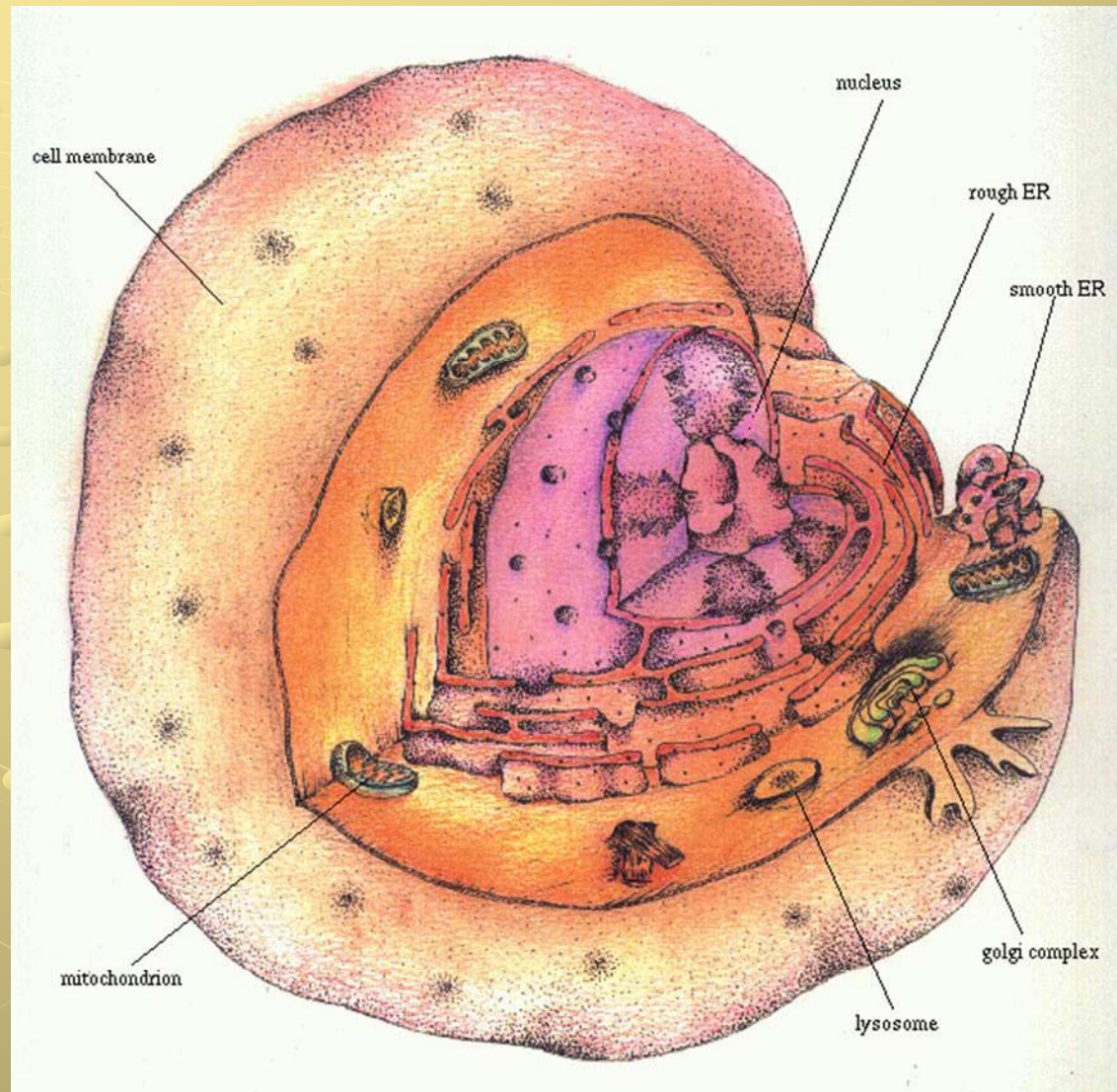


Created By: Mark Student

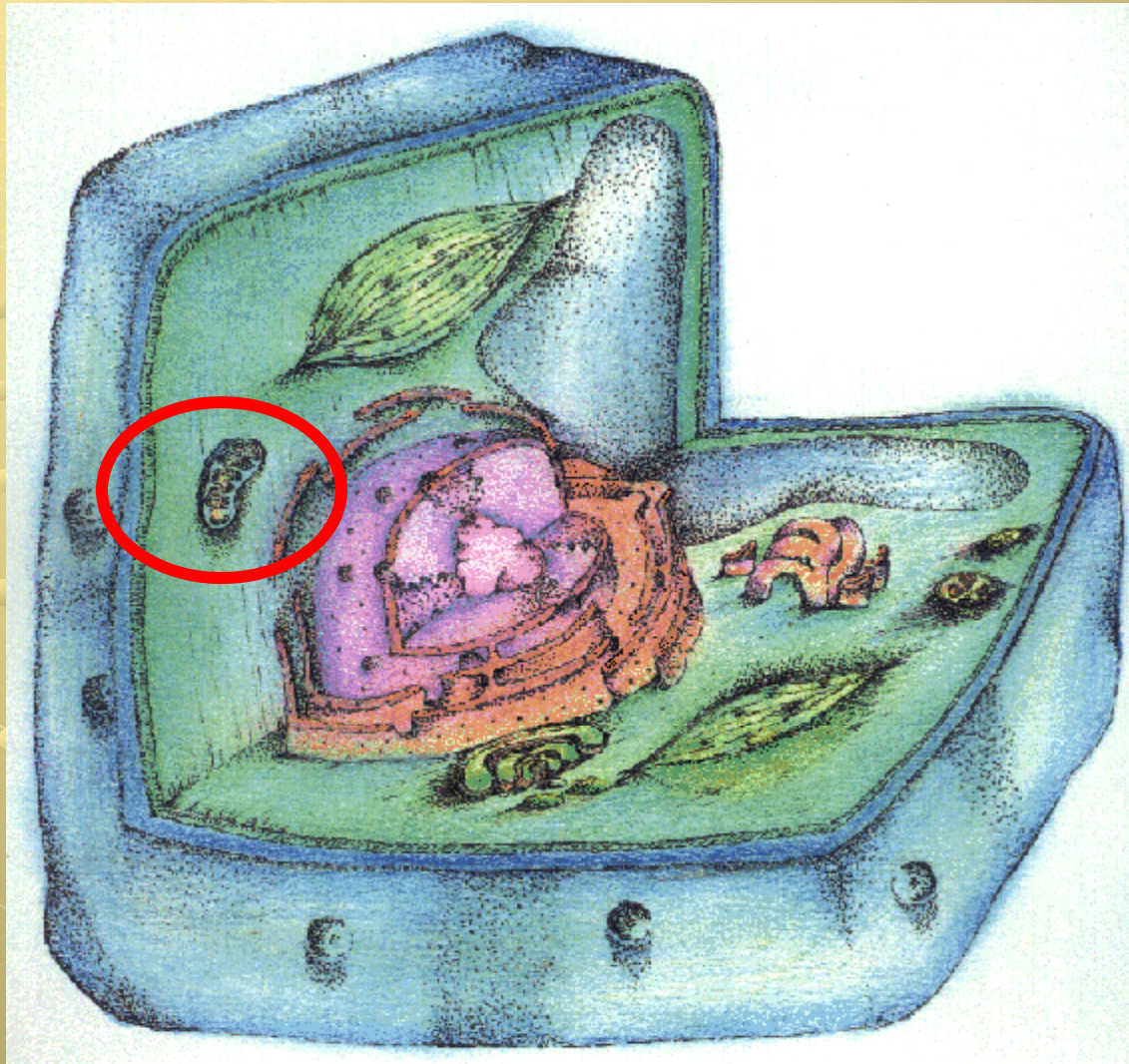
Where Am I Found?

- I have my own DNA (mDNA).
- I am thought to have derived from a bacteria-like cell, which incorporated into eukaryotic cells.
 - *Eukaryotic cells* are cells with membrane bound organelles (cell parts) that have a formal nucleus.
- I am found in eukaryotic cells, like plant and animal cells.

Animal Cells

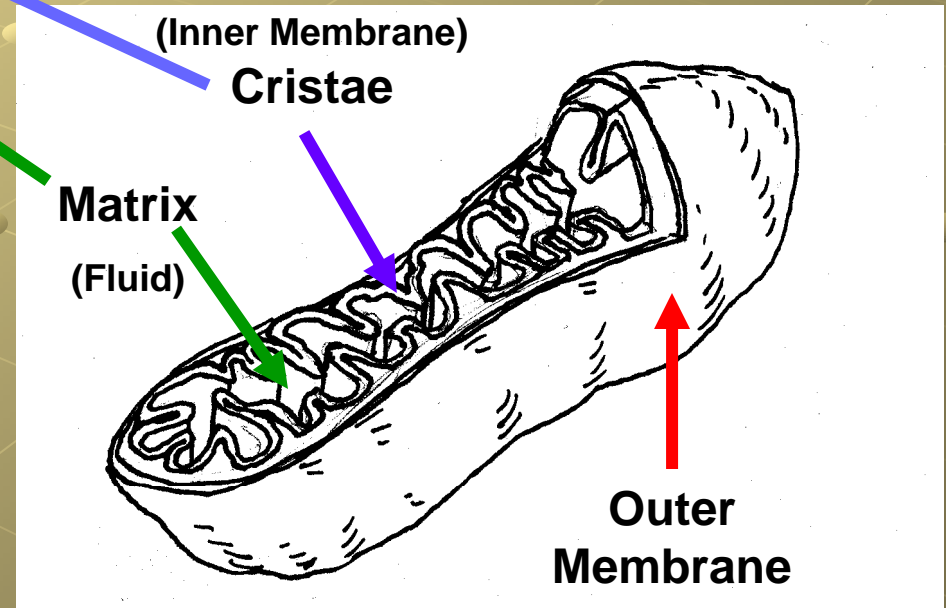
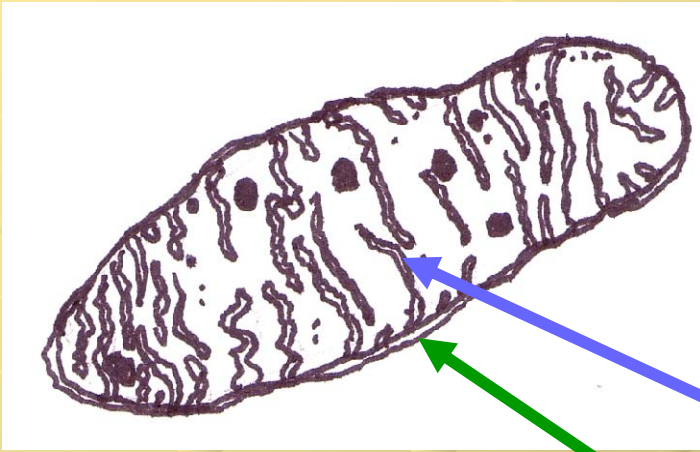


Plant Cells



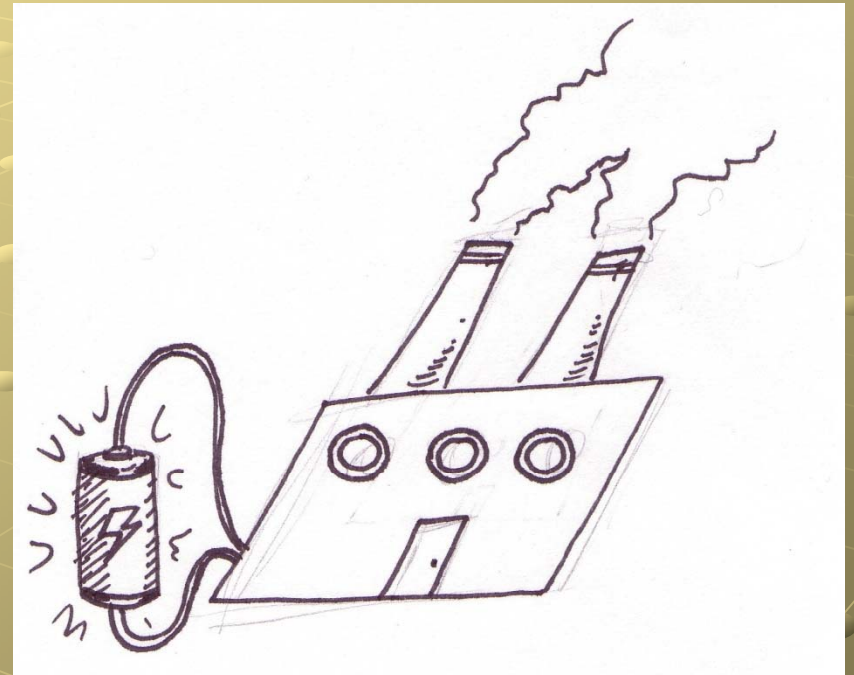
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What Do I Look Like?



I Am the “Powerhouse” of the Cell

- I supply energy to the cell through the process of cellular respiration.
- This occurs in my cristae (inner membrane).
- The energy I produce is in the form of ATP (adenosine triphosphate).

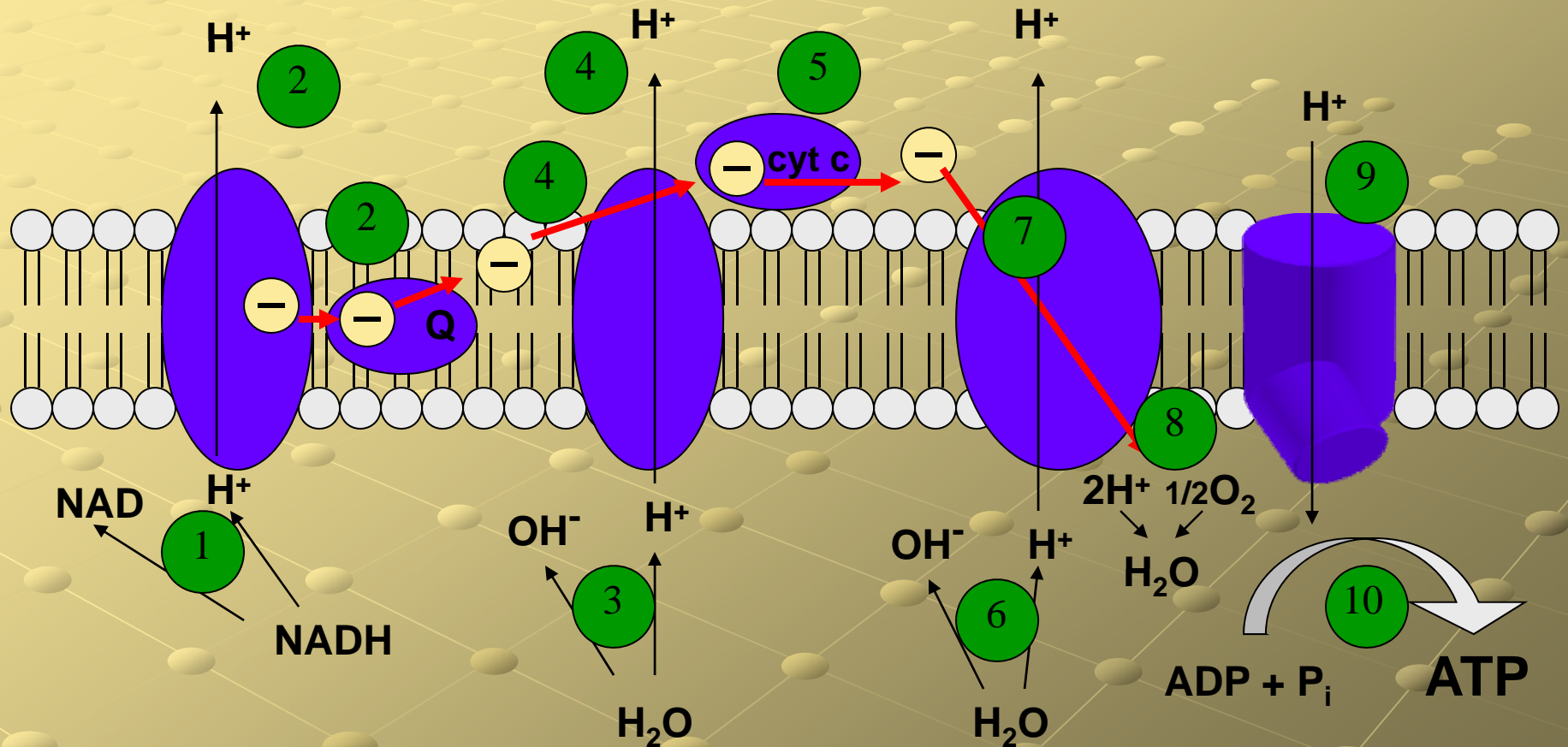


How's the Energy Formed?

- ATP is formed in electron transport chain.
- The ETC transfers protons (H^+) from the inner compartment to the outer.
- As the protons flow back to the inner compartment, the energy of their movement is used to add phosphate to ADP (adenosine diphosphate), forming ATP.

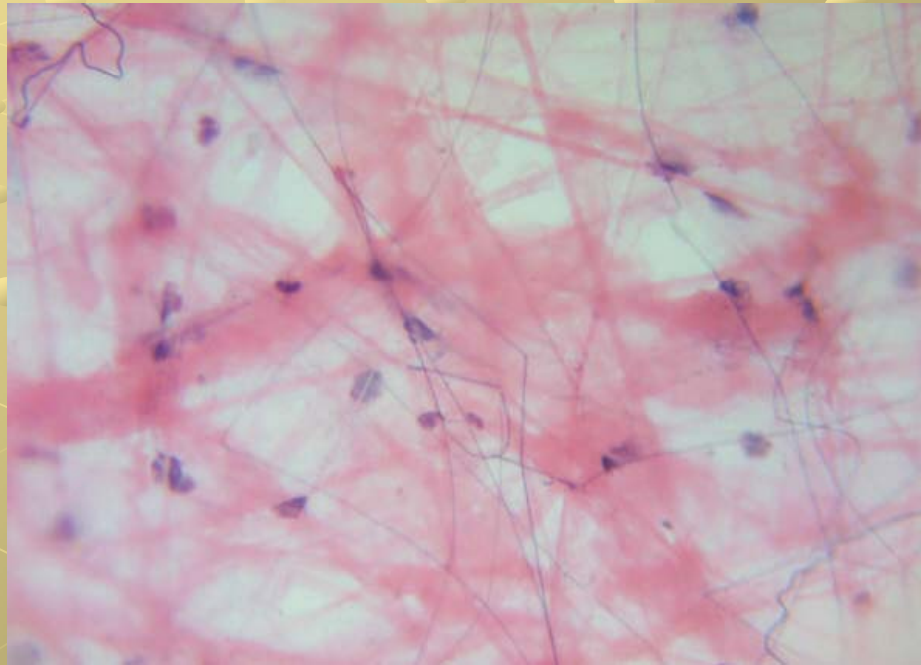
What Does This Look Like?

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Without the Mitochondria...

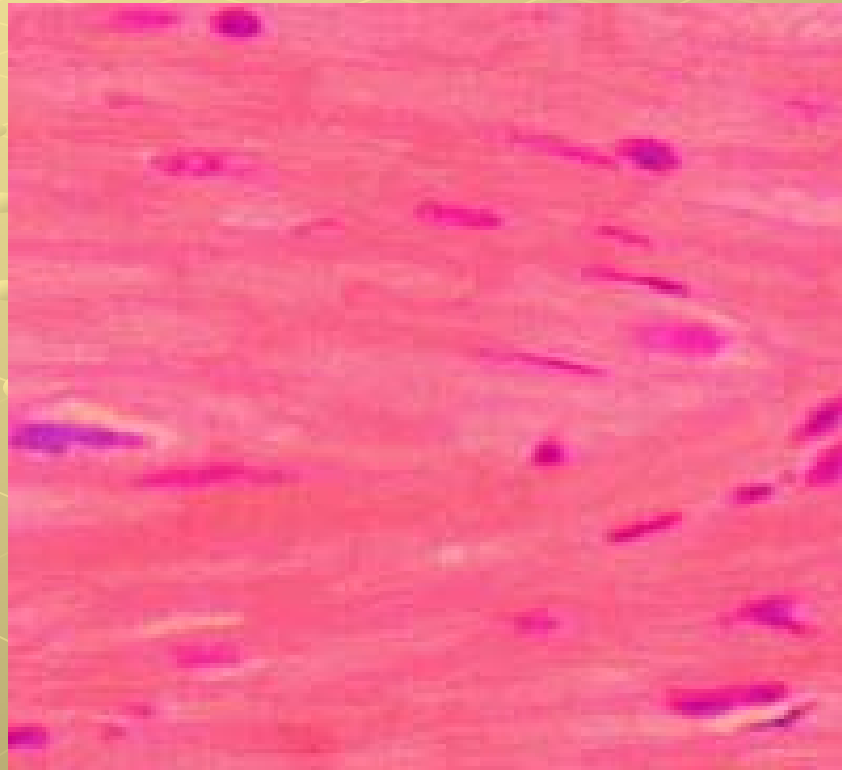
- Cells wouldn't have enough energy to survive.



Cardiac Cells

When Your Cells Die...

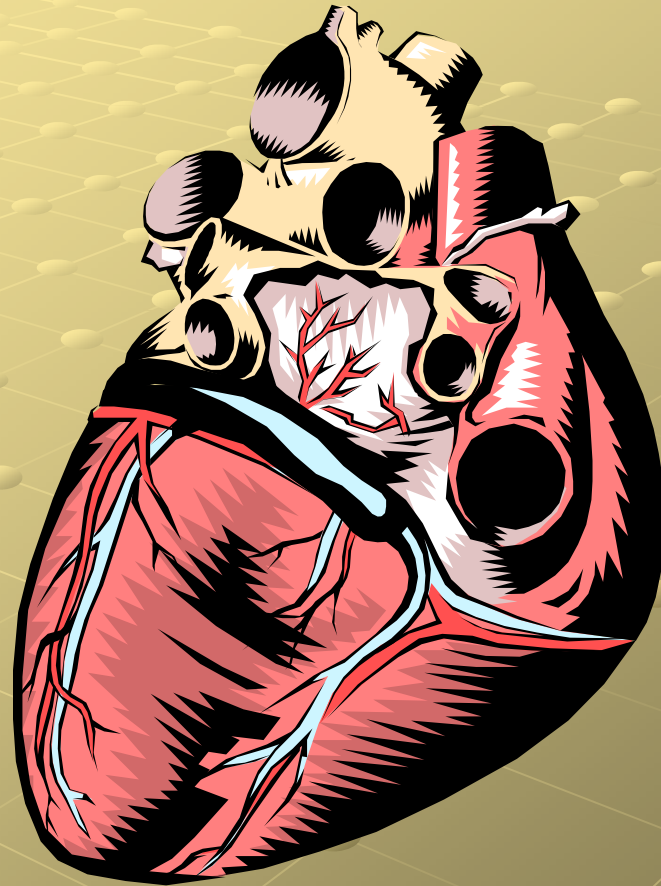
- Tissues die.



Cardiac Tissue

When Tissues Die...

- Organs fail.



Example: The Heart stops beating.

Without Your Organs Functioning...

- You'll keel over and die.



So Why Am I Important?

- It's all connected.
- If one level fails, all levels fail.
- You're made of organ systems that are made of organs that are made of tissues that are made of cells that are made of organelles like me, the "Mighty Mitochondria." If I fail, you fail, or should I say, die!

Works Cited

- Microsoft Office ClipArt

<http://office.microsoft.com/clipart/default.aspx?lc=en-us>

- Structure and Function in Cell Biology

<http://darwin.nmsu.edu/~molbio/cell/Organelle.html>

- The Biology Project: Cell Biology

www.biology.arizona.edu/cell_bio/cell_bio.html