

INVESTIGATION QUESTION

How is the organization of a eukaryotic cell an improvement over a prokaryotic cell, and what evidence supports endosymbiotic theory?

HYPOTHESIS

Hint: try writing it as "If ____, then ____, because ____."

Organelle Function Table

Organelle	Material Used to Model It	Function in the Real Cell
Nucleus		
Mitochondria		
Cell Membrane		
Cytoplasm		
Endoplasmic Reticulum		
Ribosomes		

ANALYSIS

What would happen to the cell if the nucleus were removed? What about the mitochondria?

CONCLUSION

Why was the development of the eukaryotic cell such an important step in the history of life on Earth?

CONNECT IT

Lynn Margulis proposed endosymbiotic theory and was rejected for years. Look up two pieces of evidence that support her theory today and explain each one.

THINK FURTHER

A plant cell has chloroplasts in addition to the organelles an animal cell has. Based on what you know about endosymbiotic theory, where do you think chloroplasts originally came from?

ADDITIONAL NOTES