- Mini-Video Review

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Prokaryotes vs. Eukaryotes

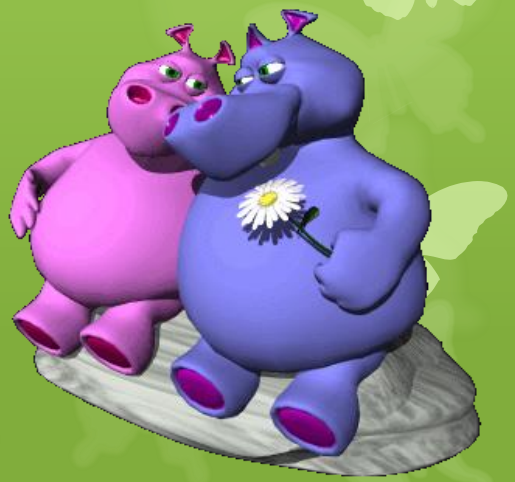
1. Which characteristic is shared by **all** prokaryotes and eukaryotes?

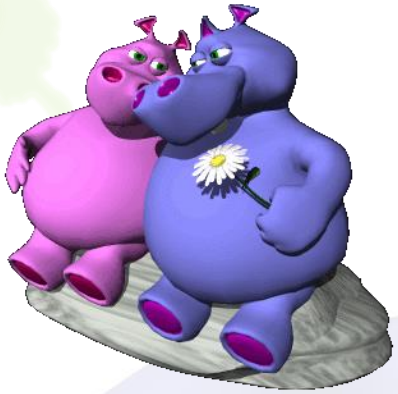
a. Ability to store hereditary information

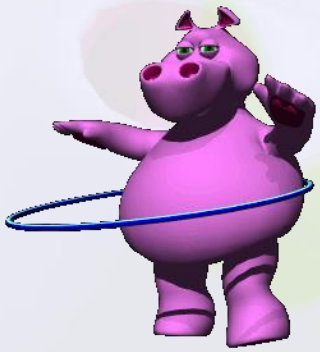
b. Use of organelles to control cell processes

c. Use of cellular respiration for energy release

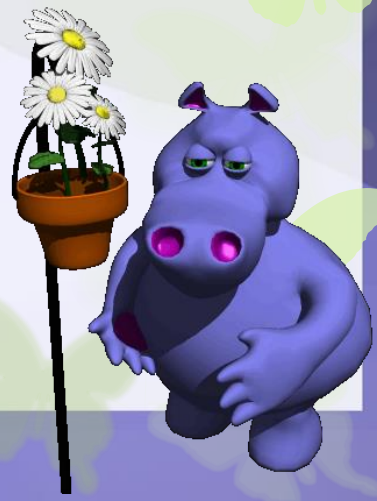
d. Ability to move in response to environmental stimuli







a. Ability to store hereditary information



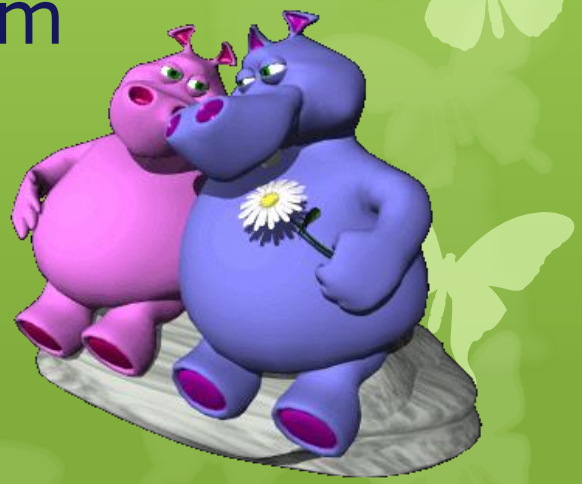
2. Living organisms can be classified as prokaryotes or eukaryotes. Which two structures are common to both prokaryotic and eukaryotic cells?

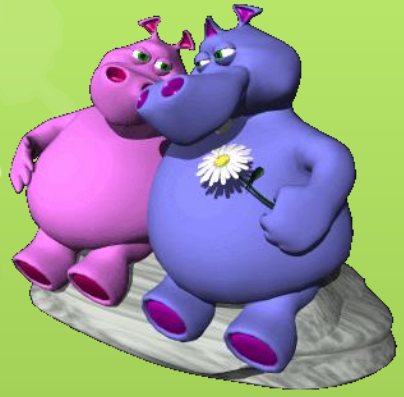
A. Cell wall and nucleus

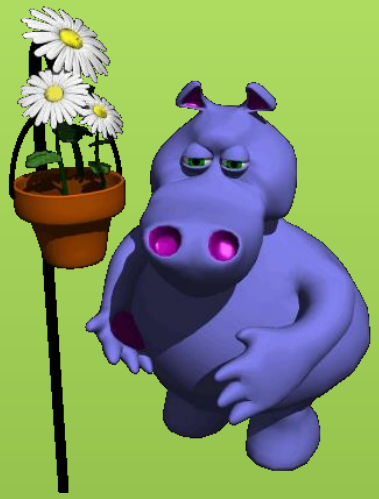
B. Cell wall and chloroplast

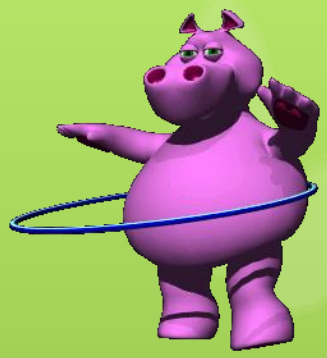
C. plasma membrane and nucleus

D. plasma membrane and cytoplasm









D. plasma membrane and cytoplasm

3. Prokaryotic cells are generally much smaller than eukaryotic cells.

Part A: Identify a structural difference between prokaryotic cells and eukaryotic cells that is directly related to their difference in size.

Eukaryotes have a much larger genome which is sequestered in a nucleus to increase efficiency. In addition, eukaryotes have membrane bound organelles that increase the surface area of the cell to further increase efficiency of the eukaryotic cell.

4. A bacterial cell is a prokaryote, while the protist euglena is a eukaryote. Which structure is present in both organisms?

A. a nucleus that controls the actions of the cell

B. a mitochondria that provides the cell with energy

C. a cell wall that maintains a rigid structure for the cell

D. a cell membrane that holds in the contents of the cell

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5. Which statement **best** describes a difference between prokaryotic cells and eukaryotic cells?

A. The presence of both DNA and ribosomes in prokaryotic cells indicates that they are more complex than eukaryotic cells.

B. The larger size of prokaryotic cells indicates that they are more complex than eukaryotic cells.

C. The presence of membrane-bound organelles in eukaryotic cells indicates that they are more complex than prokaryotic cells.

D. The larger size of eukaryotic cells indicates that they are more complex than prokaryotic cells.

C. The presence of membrane-bound organelles in eukaryotic cells indicates that they are more complex than prokaryotic cells.